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See Advert. Page 7

MODERN TRANSPORT

"THE TIMES" OF THE TRANSPORT WORLD

CITY TRANSPORT IN PARIS

See Page 3

VOL. LXXXI No. 2095 [*Registered at the G.P.O. as a newspaper*] LONDON, MAY 23, 1959 PRICE NINEPENCE

CURRENT TOPICS

The New Chairman of Thomas Cook

IT is most appropriate that Sir John Elliot should be taking up the chairmanship of Thomas Cook and Son, Limited, and of the Pullman Car Co., Limited, on his retirement at the end of June from the chairmanship of the London Transport Executive. With both these concerns, of which he is a director, he was brought into close and fairly constant contact during his years on the Southern Railway, of which he rose to become general manager before going in a similar capacity to the London Midland Region and thence to Marylebone Road as chairman of the now defunct Railway Executive. Both companies, indeed, have flourished under the long chairmanship of Mr. Stanley Adams, who is understood to have for some time sought relief from some of his business commitments and had asked Sir Brian Robertson, chairman of the B.T.C., to agree to his retirement from the chairmanship of Thomas Cook and the Pullman company. His new duties and responsibilities will happily enable Sir John to maintain his contacts and standing in the transport world, and his exceptional experience may well lead to some interesting innovations in the policies and practices of these well-managed companies. Satisfactory to note also is the appointment as managing director of Thomas Cook of Mr. Charles Holt, who has for some time served as a director and general manager of the company. Equally gratifying was our recent announcement that Mr. F. D. M. Harding, the popular general manager of the Pullman Car Company, and Mr. E. J. Morris, its secretary, had been elected to the board of that undertaking, the former as managing director.

Competition on the High Seas

BEFORE the House of Commons rose for the Whitsun recess the Minister of Transport was questioned on how he proposed to secure agreement among shipowners on a policy of replacing certain existing merchant ships. He replied that replacement was primarily a matter for the owners. The question, however, enabled him to disclose the Government's concern regarding unfair competition on the high seas—a subject that has long been causing anxiety to British shipowners. Was it not incumbent upon the Government, he was asked, to take steps to ensure that when the present serious recession declines Britain is in possession of a fast, modern, powerful and economic merchant fleet, even though the industry might be unable to put forward an agreed set of proposals. Mr. Watkinson said he did not disagree with that, but the first problems they had to try to deal with were best summarised under the terms "flag of convenience" and "flag discrimination" and those things that militated against the future development of the British shipping industry. He was having meetings with the Chamber of Shipping and his assurance that "we hope soon to make some powerful representations to the American Government on these matters" was greeted with cheers. On the same day that this statement was made the annual conference of the National Union of Seamen was discussing the significance of the laying-up of shipping in British ports. "It is nothing less than tragic," said one delegate, "to have seen during the past year new vessels coming off the stocks only to be sent immediately to the laying-up berths." The need for Government action "to keep British shipping alive and virile" was emphasised at the conference.

Future of Railway Workshops

IN February, 1956, the British Transport Commission announced its policy for the future of British Railways workshops. The shops would, with minor exceptions, it was stated, be fully employed for the next five years. The Commission has recently given careful consideration to the whole matter with the aim of establishing its policy for the future. It has concluded that the statement of principles made in 1956 still holds good and it sees no reason to depart from the general features of that policy. Since that time, however, various factors, some of them outside the Commission's control, have necessitated an acceleration of the modernisation plan and a consequential hastening in the process of shaping workshops policy to meet the requirements of the future. In formulating future policy, the Commission has felt bound to give overriding consideration to the interests of the railway industry itself; to have regard to the future of its own employees; to seek the maximum economy and efficiency in manufacture and repair and to ensure close co-operation with industry so that the maximum benefit may be obtained from its experience, resource and enterprise. The Commission's policy for the future will be to continue to use its own workshops for the manufacture of equipment and components for which they are laid out, as well as for the repair of all equipment. This is on the proviso that the costs are competitive. The Commission will continue to rely on outside industry for the supply of new diesel and electric power equipment and it may purchase complete locomotives and rolling stock from industry as the programmes require and when circumstances justify such a course. The introduction of modern types of motive power and equipment must lead to a reduction in the existing stock of steam locomotives and rolling stock and the reductions in workshop capacity of British Railways resulting from the implementation of the foregoing policy will be carried out by phases, of which only the initial phases can be decided at this time. There will also be a reduction in the orders placed with outside industry, especially for wagon repair. The trade unions concerned have been informed of these developments.

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Metalastik Research

OCCUPATION of attractive and business-like new headquarters and research block by Metalastik, Limited, coincides with that company's 22nd anniversary this month. The premises are on a corner site in Evington Valley Road, Leicester, opposite the offices and factory of the associated John Bull Rubber Co., Limited, under whose roof Metalastik was housed until the new block was ready for occupation. The association of the two companies began in 1936, when Mr. Mac Goldsmith, a prominent engineer in the German motor industry, was able to convince the John Bull board that there was a great future in bonded rubber-to-metal components, with the result that Metalastik, Limited, was formed by John Bull in conjunction with Mr. Goldsmith. Although the value of rubber for vibration damping was appreciated, little was known about the properties of bonded rubber components and the difficulties of incorporating them in dynamic structures made uphill work for the pioneering young company in the early days. From the start a large part of the effort was devoted to research to back up sales campaigning among conservative engineers and also to design economic production techniques. That tradition is carried on in the new premises, where every type of test equipment is in use in evaluating the engineering properties of rubber and rubber-bonded components. Past efforts have resulted in the remarkable expansion of the beneficial use of rubber in transport vehicles and many branches of engineering that we see today and the scope of the present enterprise should ensure that Metalastik continues to advance its wide experience and acknowledged skill in diagnosing and eradicating vibration problems.

Battery-Electric Progress

THE annual report of the Electric Vehicle Association of Great Britain states that the approximate number of battery-electric vehicles in use in Great Britain and Northern Ireland at the end of 1958 was 35,917, compared with 34,852 in 1957. New registrations of battery-electrics during the year totalled 2,293, of which the largest class was the 16 cwt.—1 ton (unladen weight) type, 589; there were 564 in the 1-1½ ton class, 409 in the 12-16 cwt. class and 153 pedestrian-controlled vehicles. Included in the total were 338 vehicles exempt from road fund licence, and 26 invalid vehicles. Government proposals for the testing of all vehicles 10 years old and more resulted in a deputation led by E.V.A. president Sir Wavell Wakefield, M.P., meeting Mr. G. R. Nugent, Joint Parliamentary Secretary, Ministry of Transport, to put before him the necessity for electric battery vehicles to be treated differently from internal-combustion-engined vehicles. As a result of these representations the Ministry agreed to exclude pedestrian-controlled vehicles from the regulations governing testing, but negotiations continue on the subject of the practical solution for testing driver-seated battery-electrics. Revived interest in battery-electric cars followed a visit from a director of the Atlantic City Electric undertaking, of the U.S.A. The report also states that in response to a request from the City Council of Gibraltar Electricity Department, Tomlinson (Electric Vehicles), Limited, built what is probably the smallest battery-electric locomotive in the world for use inside the Rock of Gibraltar.

The Zoo Waterbus

TO escape the clamour of London's traffic for the tranquility of a Venetian lagoon, and the heat and dust of fume-laden streets for the cool and peaceful charm of an arcadian waterway—these are but two of the pleasures offered to visitors to the London Zoo this summer, by a new waterbus service on the Regent's Canal, which came into effect on May 14. The project is a joint enterprise of the Zoological Society of London and British Waterways, and the service is maintained at hourly intervals between 10 a.m. and 6 p.m. on weekdays (1 p.m. and 6 p.m. on Sundays) by m.v. *Waterbuck*, a converted narrow boat seating 46 passengers. Commencing at the attractive basin of Paddington Canal Junction, more popularly known today as Little Venice, the route is pleasantly shaded by trees until it enters the 272-yard tunnel at Edgware Road. Thence to its passage beneath the railway from Marylebone Station it is industrialised, but beyond the Metropolitan Line bridge to the landing stage in the Zoological Gardens there is a long stretch which is so delightfully rural that it might be in the heart of the country. Speaking at a reception to mark the occasion Sir Landsborough Thomson, president of the Zoological Society of London, said that although hitherto the canal had been regarded as rather a nuisance, now that its potentialities were recognised, the Society intended to utilise the slopes of the cutting as a place where the animals could be seen to advantage in a natural setting. Replying on behalf of British Waterways, Major-General Sir Reginald Kerr, its general manager, observed that so far as London was concerned the new service was only a tentative beginning, and that given the public support that he anticipated, similar facilities would be extended to other sections of the Commission's waterways in the metropolitan area.

Railways into Roads?

WE have dealt on a number of occasions with the proposals for turning railways into roads, canvassed by many since the days of S. F. Edge and latterly promulgated by Brigadier T. I. Lloyd; we are in no doubt as to the lack of practicability of the general proposition nor of the inability of the Lloyd operating proposals to cope with the realities of public transport requirements and such mundane matters as duty rosters. A correspondence of a vigorous nature which developed in *The Engineer* and was given a prod from time to time by members of the Railway Conversion League has now been reprinted as *Railways into Roadways—are Railways Doomed?* (The Manager, *The Engineer*, 28 Essex Street, London, W.C.2, price 6s. 6d.) and makes some entertaining reading for the transport man—especially so since (as the final letter points out) few of the conversionists have much knowledge of any form of transport and certainly not the knowledge and experience required to organise and run a railway. The fact is that we need better railways and we need better roads, but converting the one into the other will give the worst of all possible worlds.

Progress of the Dunlop Group

WHEN the interests of a large commercial corporation are spread as widely at home and abroad as those of the Dunlop Group, there may be the advantage of offsetting decreased profits in one area by improvements in others, but there is also the problem of achieving any basis of comparison between one financial period and another. The report and accounts, which were circulated last week, show that in all the circumstances the group could be well satisfied at maintaining the group net trading balance for the second half of 1958 at little below the comparable figure for the previous year; it is pointed out that results were, in fact, better than had been anticipated in the interim statement. The total sales to customers during 1958 increased by 5 per cent to £243 million and so far as can be ascertained the overall volume of sales was 7 per cent higher than in 1957. It may not always be realised that overseas earnings contribute the greater part of the profit and last year the proportion was higher. With three new factories coming into production and with the fruits of the extensive research undertaken in many fields becoming ready for harvest in new products, there seems every ground for expecting improved results next year to reward a policy of commercial acumen.

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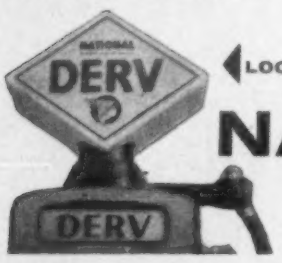

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MODERN TRANSPORT

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The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate, its object being to encourage the provision of all forms of transport in the best interests of the community.

Interim Decision on Fares

EVEN the Transport Tribunal seems to be hesitant about providing the British Transport Commission with the means of restoring its crippled finances. At any rate that is the impression one gains from the wording of its interim decision, reported in our last issue, on the Commission's application for increases in the new passenger charges scheme. While conceding the proposals in principle, particularly the long overdue need for increasing ordinary fares, it hedges on the question of early-morning fares. True, it says, that these concessions should cease, but it "has not decided whether they should stop at once or continue for a time." Why? If, as everyone realises, workmen's fares are an anachronism, and indeed have been so regarded by the unbiased for years, surely there should be no further delay in abolishing them. The Commission seems to be fated to bear further loss from delays in securing sanction for increased charges. Presumably months will now pass before the final decision on early-morning fares; in other words, on the particular type of passenger transport which is the most costly to provide. On the ceiling for season-ticket rates the Tribunal's action is hardly more helpful. Its cutting in half of the Commission's submission of £4.7 million as a surplus for London Transport to meet increased prices for replacing rolling stock and to establish a reserve must cause surprise: it seems unduly drastic. The Tribunal states that it will consider any representation in writing concerning its interim decision, and if the Commission or any objector desire it will resume the public inquiry, but it will not be prepared to consider any representation which is inconsistent with the interim conclusions. The precise meaning of this seemingly contradictory statement is open to question.

New Season Ticket Scheme

IN the meantime, the Commission has taken the only possible course and has lodged a new scheme for season-ticket rates on the lines suggested. Three weeks must elapse during which objections can be made before the Tribunal decides whether to reopen the public inquiry. The new proposals would increase a 10-mile weekly season from 15s. 3d. to 16s. 9d.; for a three-month term the price would rise from 55s. to 60s. 6d. On a 20-mile journey the weekly and three-monthly rates would be 23s. 6d. to become 26s. 4d. and £11 9s. 6d. to £12 12s. 10d. Previous increases in charges have been by hand-to-mouth methods and it has taken so long to secure authorisation of the most modest increases that further alarming losses have generated before the new scales could come into operation. This is a problem the Commission has in common with the bus industry, which secures its authority through the traffic commissioners by a process which, despite the best of intentions by the authorities, is equally frustrating and in the past has made the struggling bus operator appear a monster of iniquity for attempting to make ends meet. The Commission now, however, as charged by the 1953 Act, has sought a maximum that will not necessarily be enforced but which will offer a ceiling up to which increases can be made over a period as required and as the need arises. A wide measure of autonomy in fares is certainly justified if the B.T.C. is to act as a commercial enterprise; it already has its wings clipped by the Tribunal views on season-ticket rates.

Aversion from Paying

THE manifest aversion of the British public from paying anything like a proportionate increase on fares or rents to what it pays on most other commodities is a remarkable phenomenon and has to be taken into close account by public transport operators, especially as it is coupled with an opinion that private motoring costs practically nothing—a view that becomes very nearly true with cars shared between several passengers. Perhaps the public feels that at the end of a ride there is nothing tangible to show for the expenditure. So the railways have always been very reluctant to raise fares and over a long period before the war kept them down by the return ticket at a penny-a-mile device. The schedule of standard charges was settled in 1928 under the Railways Act of 1921 at 1½d. per mile for third (now second) class. In October, 1937, that was raised by 5 per cent and the rate per mile became 1.575d. (third). At that time the first-class fare was 66.6 per cent over third-class, whereas today it is only 50 per cent above the second, equivalent to the erstwhile third. By Ministerial Order and Defence Regulations the rate was increased by degrees during the war to 2.44125d. per mile. Under the 1952 Charges Scheme the second-class fare was fixed at 1.75d. per mile, with authority to go up to 2d. after June 1, 1953. In fact it was not until June, 1955, that there was an increase to 1.88125d. per mile. The next increase, to 2d. per mile, came in September, 1957. This year's application to the Tribunal was for rather less than double the maximum of 20 years ago (1.575d. per mile)—and what a 1d. bought then now requires 3d. It would, therefore, not have been unreasonable to have sought increases to a 4½d. maximum instead of 3d. The long-distance season-ticket traveller who pays the railway three months in advance has been travelling for something like ½d. a mile on journeys of 80 miles or more. The user of a monthly season over a 10-mile journey has been getting a discount of nearly 50 per cent compared with the ordinary fare if he travelled six days a week, and nearly 40 per cent if he travelled five days a week. The farther he went the greater the discount—at 30 miles on a five-day week the discount amounts to more than 55 per cent. On the other hand any job involving irregularity of travel soon produces a low return from a season so that it is no longer attractive—this class of user is very easily deflected to car travel. Discretion will be given to regional managements as to the extent of specific fare increases, it is understood. As the railways are in search of increased passenger traffic they would be cutting off their noses to spite their faces if they priced themselves out of the market. Any necessary increases will be designed to avoid this. In fact the Commission's first move may be to provide a further series of bargains to encourage off-peak travel.

The Railway Position

IN every year from 1948 to 1955 British Railways made a working surplus, but this was insufficient to meet the proportion of the central charges, mainly interest payments on stock, which they have to bear. In 1956 the net deficit on working was £16.5 million and in 1957 £27.1 million. In the years 1948 to 1957, gross receipts rose steadily from £346.3 million to £501.4 million, but in the same period working expenses outstripped them, rising from £322.5 million in 1948 to £528.6 million in 1957. The estimated deficit for the Commission in 1958 is of the order of £85 million. These deficits were foreseen, and, with the exception of 1958 have run true to forecast. That for 1958 was estimated at about £55 million, and the additional £30 million is mainly due to the sharp fall in the coal and iron and steel traffic. Deficits down to 1955 were paid for from assets held by the Commission, but these were almost exhausted by 1956, although prospects of becoming self-supporting were sound. The Government therefore decided to tide it over with loans under the Transport (Railway Finances) Act during the period before modernisation can yield substantial results. But it is not unreasonable for the passengers to pay a little more nearly the cost of their transport and this even the interim decision as it stands will assist.

Forthcoming Events

May 24.—Omnibus Society (Midland). Visit to Northamptonshire area.
Southern Counties Touring Society. Grimsby and Immingham Railway tour.

May 24-30.—International Union of Public Transport. Congress. In Paris.

May 25.—Historical Model Railway Society. Photographic display by Mr. K. A. C. R. Nunn. At Caxton Hall, S.W.1. 7 p.m.

May 26.—Omnibus Society. Paper by Mr. J. Rodway, "An American Holiday." At Victoria Coach Station, Buckingham Palace Road, S.W.1. 6.45 p.m.

May 27.—Royal Society of Arts. Paper by Sir Leslie Ford, "The Development of the Port of London." At John Adam Street, W.C.2. 2.30 p.m.

May 30.—Omnibus Society. Visit to Hastings trolleybus system of Maidstone and District Motor Services, Limited, prior to its abandonment. Meet Hastings Station. 1.45 p.m.
Light Railway Transport League. Paper by Mr. D. W. K. Jones, "London and Points East." At 153 Drummond Street, N.W.1. 6.30 p.m.

May 30-June 6.—Norbury Transport and Model Railway Club. Canal cruise.

Prototype of postwar diesel buses for Paris

TRANSPORT IN THE CAPITALS

PARIS

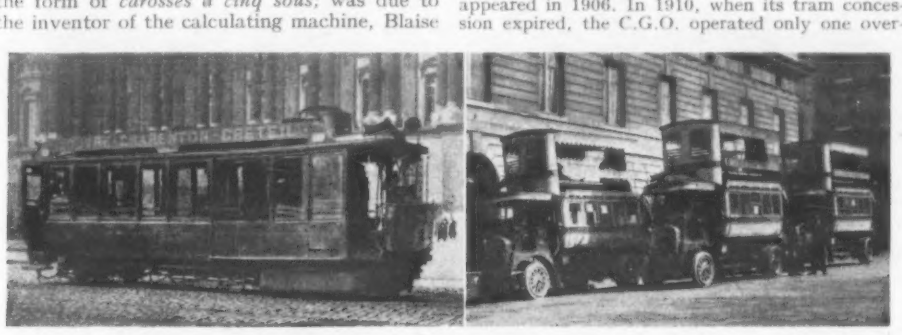
Venue of U.I.T.P. Congress

PARIS, venue of the 33rd congress of the International Union of Public Transport (Union Internationale des Transports Publics), is a most appropriate choice of meeting place for busmen, for it was in that city that public service transport was initiated not far short of 300 years ago and that a recognisable bus system began nearly half that time since. Moreover, a permanent European street tramway system and moves towards unified street transport were both first seen in Paris.

Origin of the Bus

The initiation of public service transport, in the form of *carosses a cinq sous*, was due to the inventor of the calculating machine, Blaise Pascal, who enlisted the aid of his friends in the nobility and gentry. A fleet of seven eight-seaters began work on March 18, 1662, with an inauguration ceremony at 7 a.m., and a service was provided between Porte St. Antoine and the Luxembourg. As a novelty it was immensely popular so that other routes had to be started, but public interest waned in a matter of months and the venture came to a sad end, partly engendered by a Parliamentary regulation which prevented conveyance being offered to the "lower orders." It was not until 1819 that Jaques Lafitte reintroduced 16 or 18 passenger vehicles into Paris—the title "omnibus" came from the fertile brain of Baudry, who operated a service at Nantes and was attracted by the shop sign of a grocer named Omnès—"Omnès Omnibus."

Bus competition in Paris was considerable; by 1855, however, there were only ten survivors and in that year the municipal authorities decreed a complete fusion of interests as the Compagnie Générale des Omnibus and also regulated fares. By 1860 there were 500 buses operating 25 routes. In addition the city had had the benefit of a horse tramway for seven years; it had been organised by Monsieur Loubat under an authorisation of 1852 and opened the following year. Rails extended from the Place de la Concorde along the north bank to Sèvres, with a branch to the village of Boulogne. Because Loubat felt the Louvre was the better traffic centre, but could not get powers to extend the rails into the heart of the city his "tramway américain" differed from American street railways in that the cars had retractable flanges so that they finished their journey as an ordinary horse bus. In 1854 his concession was taken over by the C.G.O.



On the road early this century: A Rowan steam tram at the Louvre and, right, de Dion double-deck motor buses withdrawn before 1914

Tramway Development

After the war of 1870, the tramway enthusiasm which had manifested itself in Britain in the Tramways Act of 1870 spread to France and in 1873 the State gave powers to the Department of the Seine to build a circular tram route around Paris and ten radial suburban lines. Although the C.G.O. obtained the concession for the "ceinture" route the others were handed over to two new companies, Tramways Nord and Tramways Sud, for operating purposes, but in 1877-78 a group of 11 routes was added to the C.G.O. system. Both Nord and Sud systems failed financially and were operated from 1890 by the Tramways de Paris et du Département de la Seine and the Compagnie Générale Parisienne des Tramways respectively. From 1887, with the entry of trams from the Nogentais system, a number of outside companies penetrated the city with cars from distant suburbs.

As in London, numbers of attempts were made to supersede animal traction. An Englishman, G. P. Harding, obtained the Sud tramway concession and ordered steam locomotives for its traction from Merryweather of Greenwich. The first was delivered in November, 1875, and service began in the following March. By 1878, 46 Merryweather steam locomotives were at work in Paris. The battery car appeared fitfully from 1881 and more permanently around St. Denis from 1892. Steam traction with Rowan cars, self-contained units with a motor bogie and a pair of trailing wheels under the passenger compartment, was introduced by the C.G.O. on one route for the 1889 exhibition. Compressed-air cars were adopted by the C.G.O. in 1894 on the new Cours de Vincinnes-St. Augustin route. Two 35 h.p. engines were driven from a reservoir pressed at 840 lb. per sq. in.

Overhead Wires

The Paris authorities were not keen on overhead wires in the streets; they appeared on electric tramways at Pantin in 1898, but the C.G.O. applications of electric traction were on the conduit system, the first being from Charenton to Bastille. Surface contact tramways were introduced by the Romainville company in 1896. In the meantime numbers of Mekarski compressed-air cars or Serpollet and Purrey steam trams (both systems used flash boilers) were added. The confused tramway development of Paris was not lessened by the introduction of seven new undertakings in 1900, inspired by the Paris Exhibition and the introduction of the first line of the Paris Metropolitain underground system. The first motor buses appeared in 1906. In 1910, when its tram concession expired, the C.G.O. operated only one overhead electric route; there were eight still employing horses, 10 steam, nine compressed air and two with battery cars.

There was now an effort towards unifying the 12 companies and the introduction of a logical tariff to stave off bankruptcy. Under the new scheme the C.G.O. electrified at last; its last horse car left Pantin for Opéra on April 20, 1913, and its last line operated by mechanical traction was electrified on August 2, 1914, between Madeleine and Porte de St. Cloud. There were 600 motor cars and 325 trailers. Some of the other systems were in bad condition and the war of 1914-18 precipitated a crisis.

S.T.C.R.P.

From January 1, 1921, the principal street transport undertakings of the city were organised by the Department of the Seine into the S.T.C.R.P., or Société des Transports en Commun de la Région Parisienne. It took over from nine companies 1,863 motor trams, 852 trailers (called "attelages" in Paris and not "remorques"), 734 motor buses, 19 steam locomotives, 132 other vehicles and 63 river vessels. There were 34 tram depots, 16 bus garages, and five principal workshops. By 1928 the rolling stock had been brought up to date, facilities improved by the unification of the system and better routeing, and one-man cars had been put in service on light traffic routes. In 1924 there were 114 tram routes on a system of 625 route-miles. There were about 250 miles of bus route.

In 1930 it was decided that the trams could not compete with the buses nor with traffic congestion and abandonment was decided upon; it was accomplished by 1937. At that time some 1,150 miles of bus route were operated. In 1942 the S.T.C.R.P. was merged with the Chemin de Fer Metropolitain which had itself taken in, in 1930, the Nord-Sud underground system. By 1939 the Metro system operated 98 miles of route, including the recently electrified Ligne de Sceaux, taken over from the Paris-Orléans Railway and running on the surface out to Massy-Palaiseau with a branch to Sceaux-Robinson.

Articulated train set on Ligne 13 and, right, pneumatic-tyred train on Ligne 11 of the Metropolitain

Postwar System

Bus services were confined to a few outer suburbs during the war and upon redeveloping the system it was decided to use the buses as an adjunct to the underground railway, which is reserved for mass transport. The bus serves areas without underground facilities, supplements the trains on heavily-burdened underground routes, serves tourist routes, and otherwise functions in an auxiliary capacity. In the outer suburbs motor buses or trolleybuses feed into underground termini, without entering the inner area; so that, irrespective of traffic flow, no through bus facilities are given from the centre to the outer suburban areas. The public obtains the benefit of a number of express services which run nonstop across inner suburban areas to reach the outer suburbs, thus providing a fast connection from the underground train.

The results of co-ordination can be seen from the staff statistics. In 1938, 1,525 million passengers were carried by the Metro and the S.T.C.R.P., which employed a total staff of 41,750. In 1958 2,330 million passengers were carried by the combined undertakings, which in 1949 had been

(*Continued on page* 13)

Commonwealth
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Cast Steel
Bogies

4-wheel Motor Bogie frame for Electric M.U. Cars built by Metropolitan-Cammell Carriage & Wagon Co. Ltd.
4-wheel Bogie Bolster for passenger coaches for British Railways.
4-wheel Trailer Bogie frame for Electric multi-unit passenger coaches built by Metropolitan-Cammell Carriage & Wagon Co. Ltd
6-wheel Motor Bogie frame for 1250 h.p. Diesel Electric Locomotives built by Brush Electrical Engineering Co. Ltd.
4-wheel Bogie frame for passenger coaches for British Railways.

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LORRY—BUS—COACH

Glasgow to Try Spot Bus Check

ON four bus services operating along Paisley Road, Glasgow Corporation Transport Department is to try out the key system of bus recording. Conductors at present stamp their cards at time clocks at various points throughout the city. The disadvantage of this system is that the records cannot be effectively examined until some time later. In the new scheme the conductor simply turns a key to send an immediate report of his vehicle's position to the duty officer in the transport head offices at Bath Street. The officer will know in a matter of seconds if there are any service delays and be able to take action immediately. A considerable amount of work will be required to develop the first installation, which is estimated to cost £2,600.

Bombay Progress in Retrospect

TROLLEYBUSES will shortly be introduced into service in Bombay on an experimental basis. Mr. M. G. Monani, outgoing general manager of the B.E.S.T. undertaking, referring to this, and reviewing the progress of the undertaking during his three-year tenure, said that the bus fleet had increased from 631 to 964 vehicles, carrying 1,250,000 passengers daily, compared to 875,000 per day previously.

New G.E.C. Distribution Centre

AS part of a plan for decentralisation of its sales organisation in the London area, the General Electric Co., Limited, has just opened an area office and warehouse at Hanger Lane, Ealing, to serve North London and the Eastern and Southern Counties. A similar office will be opened in South London to serve South East England. The Ealing warehouse has a new fleet of Austin diesel vans and movement from the five floors to vans is by lifts and built-in conveyors.

Unwitting Contributors to R.H.A. Fund

SOME members of the Road Haulage Association who have recently, as they thought, paid their annual subscriptions are being surprised with renewed demands for it. What has happened is that they have unwittingly subscribed to the publicity fund which the R.H.A. established some time ago. The normal subscription invoice was accompanied by a somewhat similar document which invited them to subscribe a sum equal to their annual subscription to the fund and the members in question apparently remitted against this "invoice" without noticing its specific object.

Hastings Trolleybus Obsequies

WHILE the last public service of Hastings trolleybuses will be on Sunday, May 31, there will be a special last run on Monday, June 1, conveying members of Hastings and Bexhill Councils and other specially invited guests from the Metropole, Bexhill, to Hastings, where a luncheon will be held at the Queen's Hotel, presided over by the chairman of the company, Mr. R. P. Beddow. A commemorative booklet dealing with the history of Hastings trams and trolleybuses is being prepared by Maidstone and District Motor Services, Limited, for presentation to the guests. Transport enthusiasts and collectors of souvenirs will be interested to learn that special tickets, commemorating the last journeys of the trolleybuses, will be issued on all trolleybus routes on May 30 and 31.

Fewer Turns for Buses in City

FROM Sunday, May 24, Southampton Corporation Transport Department is introducing a new bus centre and a new circuit for most of the bus services using central Southampton. Designed to relieve traffic congestion, the scheme features Pound Tree Road as the main boarding point, superseding both New Road and Houndwell as bus terminals. The main objective of the change is to remove as many buses as possible from the busiest stretch of Above Bar between New Road and Hanover Buildings. For buses approaching the town centre from the east the old circuit of eight turns—several of them right-handed against an intensive flow of traffic—will be replaced by a new circuit of four turns only.

Sheffield Hauliers' Group Reports

GENERAL long-distance traffic was well maintained last year, reports Direct Motor Service (Sheffield), Limited, the well-known haulage group organisation, and now there has been a new departure in the shape of an "in between" service which caters for the smaller firms who dispatch in quantities of less than full loads. As the company chairman, Mr. G. H. Sedgwick, reported at the 35th annual general meeting, there are several carrier firms in the area for lots up to 5 cwt., and plenty of hauliers available to do loads of 5 tons or more, but the consignor of goods "in between" these weights has until now been unpopular with all forms of transport. The "in between" service will help to remedy this position. It was said that the demand for the fleet of 6-8 ton light alloy containers had been very satisfactory, particularly for customers who dispatch goods which must have the maximum protection during transit.

During the first 11 months of last year the company again utilised a large number of tippers on the haulage of coal and road materials, but from December 1 last, some 8,000-10,000 tons of coal per week for power stations was transferred to rail because of lower rates. Efforts to replace this traffic were meeting with a certain amount of success, but it was said that competition of this type is difficult to meet as unfortunately the road transport industry has to be self-supporting.

Isle of Man Coach-Air Traffic

WITHIN the next five years coach-air services would be bringing 100,000 visitors a year to the Isle of Man, declared Mr. J. M. Cain, chairman of the Isle of Man Tourist Board, during a visit to the headquarters of Ribble Motor Services, Limited. Recalling that Ribble and Lancashire Aircraft Corporation had pioneered coach-air services between the mainland and the Isle of Man in 1951, Mr. H. Bottomley, general manager of Ribble, said it was hoped to see a further growth of this traffic to the island. In 1951, 6,000 visited the Manx resort by coach-air; in 1957 the number had risen to 57,000.

Two lesser-known breeds of commercial vehicle: left, a tandem-axled articulated unit, described as a Sentinel, with vertical engine, of Sutton and Son (St. Helens), Limited; right, a Rutland 6-tonner, one of several operated by G. L. Baker (Transport), Limited, Stratford, E.15

Next P.T.A. Conference

FOLLOWING last week's successful conference of the Public Transport Association at Folkestone, to which reference is made elsewhere in this issue, it was announced that next year the association would meet at Scarborough from May 17 to 19.

Bristol Depot for A. Packham

OPENED at Fishponds, Bristol, by A. Packham and Co., Limited, last week, was what is claimed to be one of the biggest privately-operated haulage depots in the West Country. It was opened by Mr. S. W. Nelson, the Western area Licensing Authority, who turned a gold key in the main gate. The new depot, at Hockeys Lane, Fishponds, has been built to replace three other branches of the company—two in Bristol and one in Clevedon, which will now be closed. With the warehouse, offices and transit depot, including a fitters' shop, all under one roof, the company will be able to offer an improved and more efficient service. Fourteen vans engaged on distribution will be permanently based on the Fishponds depot, and daily trunk services from London, Birmingham, Falmouth and Exeter link up with the company's depots to distribute goods throughout the West Country.

The new depot has been basically converted from a biscuit factory. The factory premises are being utilised to provide three floors of warehousing space totalling 235,000 cu. ft. In addition a 103-ft. long loading bank has been built on one side and this is capable of accommodating 14 vehicles simultaneously. The loading bank, which has an area of 3,300 sq. ft. can be completely and securely shut off by large sliding doors. An automatic lift and conveyors deliver the goods from the loading bank to the upper warehouse floors.

Vehicles based at Fishponds will distribute goods in the counties of Gloucestershire, Somerset, Wilts, Dorset, Cornwall and Devon. Goods warehoused are stored and distributed according to instructions received from the owners. The company also operates express goods delivery services between London and Bristol. Special racking has been built at the depot to accommodate many drums of lubricating oils which the company distributes throughout the south-west. A. Packham and Co., Limited, was formed in London in 1941 to take over a service which has been serving the same area for many years. Shortly afterwards a depot was opened at Mayor Street, Bristol, one of the three depots which will now be closed. In charge of the new depot is Lieut.-Colonel W. H. Whimster, Bristol branch manager.

Bus and Coach Developments

Bristol Omnibus Co., Limited, seeks to reorganise its services in the Frenchay, Hanham, Keynsham and Staple Hill area east of Bristol.

Kendrick Transport, Limited, Dudley, applies for the excursions and tours from Bilston of Ben Smith and Son.

W. R. Jones, Brecon, proposes a daily service between Brecon and Llangorse Village via Highgrove and Llanfihangel Talyllyn.

Grimsby and Cleethorpes Joint Transport Committee and Lincolnshire Road Car Co., Limited, propose joint services between Cleethorpes and Immingham Docks and Cleethorpes and Stallingborough (Laporte Titanium Factory).

The headquarters of Dunlop's Dunlopillo division has moved from Walton, Liverpool, to Rochdale. The new address is Castleton, Rochdale, Lancashire, and the telephone number Rochdale 47444.

A new patented shutter door introduced by Bolton Gate Co., Limited, is made in sizes to suit transport garages and similar installations. Tested to withstand wind pressures equivalent to about 100 m.p.h., even the largest sizes are capable of being handled by one man, it is claimed. The Bolton door is available with power operation and various types of automatic control; all power-operated doors are fitted with safety devices to prevent injury to persons or damage to vehicles.

The Birfield board announces that planned rationalisation of the group's foundry interests now being put into effect will mean that special plant and equipment of the Phosphor Bronze Co., Limited, at Bradford Street, Birmingham, will be transferred to other locations within the Birfield Group. A Birfield spokesman said that the move would not mean any break in the continuity of work on existing contracts; customers were being advised of detailed arrangements for future requirements.

ATOMS, ASPHALT, AMEYS—and AUSTIN

Main runway at Bovingdon comes in for resurfacing. 7 ton of boiling bubbling bitumen is dropped from a mobile plant into the Austin tipper. Then the truck speeds over the airfield to the paver finisher. Slowly the bitumen is tipped out to form a new 2 inch deep layer.

YOU'LL SEE THEM working at atomic establishments, at aerodromes, on new motorways and by-passes. You'll find them tipping in quarries, carrying concrete mixers on construction sites, pulling specialised trailers on long distance haulage. What are they? Vehicles engaged on the many activities of the Amey Group of Companies. Austin vehicles.

From a horse and cart in the early 1920s the Amey fleet has grown to about 300 vehicles. 106 are Austins, ranging from ¼ ton vans to 7 ton tippers. Mr. R. W. Amey, Chairman, says, "In 1955 I was searching for a robust oil-engined vehicle, combining high quality and low price, to suit the needs of my 8 Companies. Austins fitted all our various requirements and I decided to standardise on them. I have never regretted that decision."

The all-purpose Austin commercial range includes vans and trucks from ¼-7 tons, plus tippers and prime movers for 15 ton train weights. All with 12 months' warranty and backing of B.M.C. Service.

At Woolworths, Oxford—Ameys storage and distribution service in action. From warehouses at Wootton and Frome goods are delivered within 24 hours through 8 counties. Austin 5 ton prime movers carry the goods. Unloading here is Driver Ted Feesey. His monthly mileage—3,000. His verdict on Austins—"Wonderful engines."

Hush-hush at Harwell. Every day this Austin is checked in and out the closely guarded gates of the Atomic Energy Research Establishment. Every day, on a 140-mile round trip, it brings 7 tons of cylinders from Wembley. Cylinders of hydrogen, oxygen, nitrogen and other gases needed for atomic research work at Harwell.

AUSTIN

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THE DOUBLE-DECK BUS

Its Operation and Future

By F. H. CLAYTON, M.I.Mech.E., Deputy General Manager, Liverpool Corporation Passenger Transport Department*

WITHOUT delving into too much detail and covering ground that has been well discussed, it does seem that manufacturers do not always see the operator's difficulty in maintenance. Some manufacturers make a point of stressing the unit construction of engine, clutch and gearbox as a virtue of their product, but in practice these three units have a life which is anything but equal, and much unnecessary work is caused by having to dismantle units or parts to get at the defective part.

At the 1958 Commercial Vehicle Show the practice of mounting a large number of units together on a sub-frame was much in evidence. This would be ideal if all the units required attention at the same time, but it may present real difficulties in actual practice. Many other examples could be mentioned, such as having to disturb front hub bearings in order to reline front brake shoes and having to remove engine from frame in order to tighten adequately certain otherwise inaccessible cylinder holding-down nuts.

Mr. F. H. Clayton

Body Design

It is perhaps not fully appreciated by operators and manufacturers alike the amount of expenditure that is incurred on body maintenance, the figure for Liverpool being no less than 36 per cent of the total maintenance costs. Any development which will reduce this figure will be very welcome to the operator, for the opposite trend at present prevails. Chassis and many component manufacturers employ a development division in order to keep pace with modern developments and the testing of new materials, but it is wondered whether body manufacturers are as alive to the necessity for such work. It must never be forgotten that the operator is in business to sell seats to the public, and it is the body in which the passenger is interested.

The body manufacturer's usual answer to these allegations is lack of standardisation by operators and the very competitive market, where first costs are so important. In regard to the former, the author feels that this point of view is often exaggerated, the vast majority of operators having a standard body, apart from a few items such as indicators, seats, etc., which do not affect the main structure. Although the large operator can, by virtue of placing larger orders, demand a vehicle to meet his particular requirements, this should not prevent the body manufacturers establishing a standard basic design which could be jig built to a greater extent than at present.

Co-operation in Research

In the design and development of new products the manufacturer not only carries out his own testing but has the resources of the Motor Industry Research Association with laboratories and proving grounds to assist in the elimination of weaknesses in design. In addition, the large operator is often consulted at an early stage in the design but it would seem that these discussions are mainly in general terms as to the requirements of the industry. In due course the new product is handed over to a selected number of operators for comments and criticism on its general suitability. But is the operator ever asked to dismantle and maintain a new product with his normal maintenance methods under strict garage conditions? It is suggested that many new products could be improved by this additional co-operation rather than by maintenance work on new vehicles being carried out by manufacturers' research personnel, as usually takes place.

Most manufacturers and some large operators such as London Transport Executive and B.E.T. associated companies have excellent training schemes for engineers and the M.P.T.A. are starting such a development. It is suggested that the industry would benefit in the long term by having a system of interchange of trainee engineers between manufacturers and operators. With such a scheme the future designer would be very much more valuable to the industry as he would appreciate just what is involved in the maintenance of vehicles from the operators' angle, and would have first-hand experience of such work. Conversely, the operator may not be so critical if he appreciates the compromise in design that a manufacturer has to contend with in bringing together the many varying factors.

Present Practice

Production of bodies with a seating capacity of 65 or below is almost exclusively of the rear-entrance type but over this capacity there is a pronounced trend, something in excess of a third, towards the front entrance. With only a few exceptions the front-entrance bodies were built on conventional chassis and it can be expected that the introduction of new front-entrance designs will have a marked effect on the figures for 1959. There is a feeling among many operators, which is shared by the author, that there is a limit to the number of passengers which a conductor can look after and at the same time collect fares efficiently and attend to platform duties. On vehicles with over 65 seats, difficulties do arise for the conductor in covering these duties adequately, and there is a tendency for a larger proportion of uncollected fares and over-riding to occur which can result in serious loss of revenue to the operator. It would appear, therefore, that from a fare-collection point of view, there is a lot to be said for the adoption of a front entrance, so enabling the driver to control the alighting and boarding of passengers, thereby leaving the conductor free for fare collection.

Looking Ahead

The trend in rising costs is ever present, and hits the transport operator disproportionately hard every time there is a wage increase. As compared with industry in general, the transport operator has a much higher proportion of total costs devoted to the payment of wages. In Liverpool, out of every pound spent in the financial year 1957-58, 8s. went in traffic wages, and the total wage bill is well over half the expenditure. In an effort to meet this position the manufacturers and operators have made strenuous efforts to fit as many passengers as possible into the available box dimensions. Economy is very necessary but over-emphasis of this one aspect of public transport could act as a deterrent to passenger travel and it is very necessary to keep in mind the broader picture and not have a too negative approach. One feels that there is room for a greater positive approach to the problem of attracting passengers, especially in the off-peak periods, to maintain revenue at the highest possible level.

The following appear to be among the most important points for consideration: higher seating capacity in lower saloon with a minimum of longitudinal seats; front entrance with driver-controlled doors; maximum safety measures for passengers; easy entry and exit with a flat floor; efficient saloon heater and ventilator; conductors to spend maximum time on fare collection duties; quiet vehicles with minimum engine noise; pleasing colour scheme and tasteful fitments.

With a view to reducing costs it would appear that the following could be examined with advantage: maximum seating capacity for peak-hour work; improvements in mechanical design, reducing maintenance costs, with special attention being given to detail design; and improvements in body design including a greater degree of jigging and tooling to improve interchangeability and ease in repairing damage.

Double-deck as Overload Single-decker

Assuming that the lower saloon had a seating capacity of 44, the upper saloon would only be required for peak hours and odd portions of journeys such as at lunch times or school finishing times. From observations it is evident that the majority of passengers prefer the lower saloon as on buses that have no restrictions in regard to smoking it is found that less than 20 per cent of the passengers choose to travel in the upper saloon. With these facts in mind the suggestion is put forward that the double-deck bus as is known at present, instead of being considered as a complete unit from the passenger's point of view, with passengers sitting in both saloons, should be considered as a single-deck bus with an overload capacity on the top deck to be used as the operator so desires in the best interests of the passengers and crew, and also with the idea of reducing costs.

Such a vehicle, with a lower saloon seating capacity equivalent to that of a single-deck bus and a total seating capacity in excess of 90, necessitates an overall length in the region of 35 ft. It is envisaged that such an overload single-deck bus would have at the bottom of the stairs a door or barrier rail under the control of the conductor, and during the major part of off-peak operation the upper deck would be out of use, and the vehicle acting as a single-decker with all the attendant advantages that entails.

Peak-Hour Operation

At short intervals, such as lunch and school finishing times, when the lower saloon capacity would not cater for the needs of the service, the conductor could open up the barrier rail allowing access to the upper saloon. The barrier rail could be so designed that once passengers entered the upper deck the rail would revert to its closed position and by means of a simple mechanism give one-way movement only, thereby allowing passengers already upstairs to leave but no further passengers to ascend, the control of the barrier rail being the responsibility of the conductor. At peak times when a bus for a considerable period might be filled to capacity, the barrier rail could be put out of use, and the bus revert to a conventional double-decker.

Dealing with the desired features of the overload single-decker, the most important section is that of the lower saloon. Mounting the engine at the rear would appear to have many advantages especially if the engine is turned in a horizontal position in order to eliminate loss of seating capacity in the all-important lower saloon. There would seem to be no reason why the engine could not be mounted horizontally at the rear on the 35-ft. vehicle. The slightly longer overhang compared with the 30-ft. double-decker would help the position insofar as the angle of the propeller shaft is concerned.

Low Floor Level

To promote stability and maximum passenger comfort it is considered desirable that the vehicle should be built as low as possible, and for the purpose of maximum safety to passengers that the floor should be kept flat and with a minimum of slope and no steps from the front entrance through the gangways and in between the seats, the ideal being for passengers only having to ascend or descend one step from the platform to the kerb when entering or leaving the vehicle. In order to keep the floor height and steps to a minimum it is felt that the extra cost of £100-£150 for a divided rear axle is well worth while. In this connection it must be remembered that during the life of a vehicle it is possible that one passenger accident due to slipping on a step within the gangway necessitated by the fitment of a conventional rear axle, can cost the operator more money than the additional capital cost.

Coming to the top deck, as this will only be used intermittently it is suggested that the furnishing could be more austere in regard to seat frames, upholstery, trimmings, etc., together with the maximum use of light alloys and plastic materials, thereby keeping the weight to a minimum. The overall length is 34 ft. 10 in. with a total seating capacity of 95. This gives a seating capacity of 44 in the lower saloon with a minimum seat pitch of 2 ft. 5 in. which allows quite comfortable seating to be incorporated. The seating capacity in the upper saloon has been limited to 51 in less comfortable seats.

The lower saloon floor has been kept as flat and as low as possible and with slight modifications at the rear end the overall height could be brought within the range of a low-bridge type. The design is based on semi-integral construction with a lightweight chassis frame in order to allow

(*Continued on page 9*)

* Abstract of a paper presented to the Public Transport Association conference at Folkestone on May 14.

IN...

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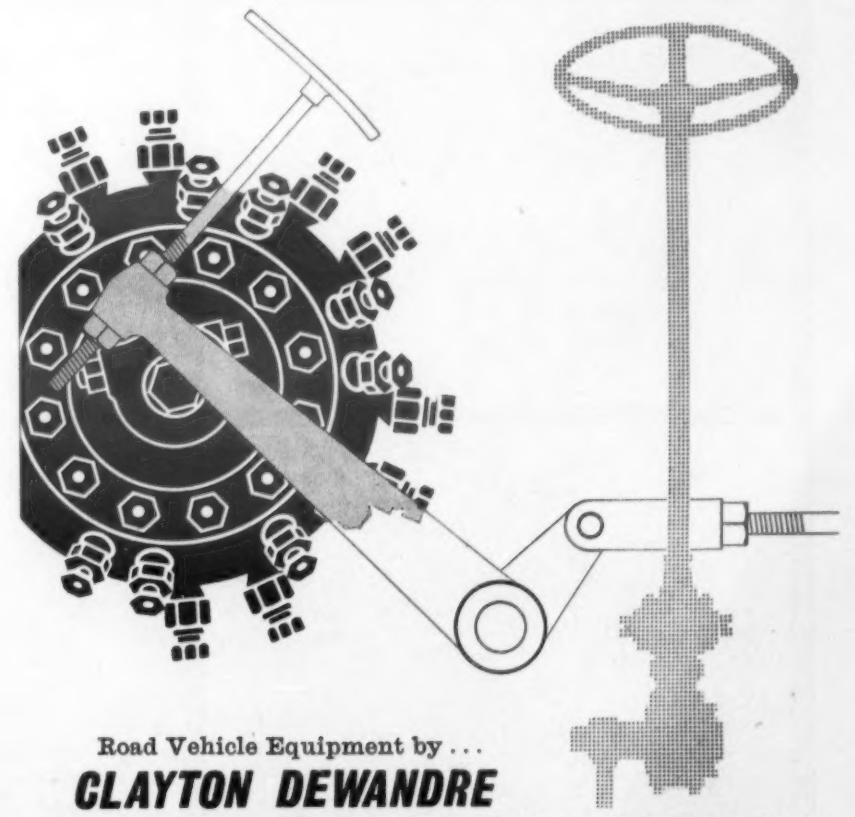

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FOLKESTONE DISCUSSIONS

From Computer Timetables to New Braking Systems

STANDARDISED DESIGN BENEFITS

THE 1959 conference of the Public Transport Association at Folkestone will long be remembered for its brilliant weather and vigorous discussions under the chairmanship of Mr. T. Robert Williams. Business opened with a welcome from Councillor D. H. Brown, Mayor of Folkestone, who included a tribute to good public transport service from the East Kent Road Car Co., Limited, followed by the presentation of the chairman's report to members of the Association and the annual general meeting. At its conclusion Mr. A. J. White, general manager, Maidstone and District Motor Services, Limited, outlined his paper, "Some Contemporary Problems in Bus Operation," which was summarised in our last issue.

Opening the discussion, Alderman J. H. Whitaker (Todmorden Joint Omnibus Committee) said that instructions to computers must be clear and precise. It was only the speed with which instructions could be carried out that conferred any advantages. Mr. John Birch (Birch Bros., Limited) said that bus operators were not doing enough to sell their wares. "As an industry we should have a nationwide campaign to popularise the bus, and its safety and economy compared with private transport. What publicity we do get seems to be detrimental—inquisitions into fares applications are an example which give the impression the wicked operator is out to exploit the public." Under the 1958 Tribunals and Inquiries Act it should be possible to challenge the method of handling fares applications under the Road Traffic Act, 1930.

Municipal Activities

On rare occasions municipalities could learn from companies, said Mr. George Cherry (Birkenhead), adding that he could not understand how the compilation of a bus schedule could be done better by a computer than by a man. The vital steps were in preparing the data and making decisions on speeds, shifts, duties, meal reliefs and stops. He stressed also the importance of avoiding anything that added to the time spent at stops. Explaining a reference to municipal accounting equipment in Nottingham Mr. Ben England (Nottingham) said that his undertaking had been fully mechanised with Powers Samas equipment for 15 years. This was now wearing out and the Transport Department was going ahead with new I.C.T. equipment including an electronic multiplier. The Corporation was later to have complete electronic equipment.

Mr. S. C. Vince (B.E.T.) confessed that when he found himself carless a little while ago he learned a lot about the p.s.v. from the passengers' viewpoint. In maintenance, leaving well alone was a good rule—we could no longer afford the luxury of pulling things down to see what was inside. As to body repairs, plastic panels did not need splitting up as they could be repaired while in position. They must train bodyworks staff in how to do it. He thought stressed skin panels should be on the inside and protected by the "wallpaper" on the outside.

Low Bridge Problem

Mr. Norman Dean (Yorkshire Traction) complained that low bridges were still a problem in his area and Yorkshire Traction still had lousy road surfaces to run upon. Everybody's problem was different; to them one of the problems was having to run so many single-deck vehicles—but they could be used on express and coastal duplications when required at weekends. The author's use of 38-seaters with provision for 20 standees sounded a very attractive proposition.

Could we look at the problem of giving adequate bus service throughout the country by amalgamating the P.T.A. and the M.P.T.A.? asked Alderman S. I. Dyson (Sheffield Joint Omnibus Committee). He thought that electronic equipment had many limitations unless the right data was fed into it. Far from having the edge on the private operator the municipality had to pay on a higher wage rate per car-mile. He saw possibilities in double-deckers operating on routes to the seaside and thought the operators ought to get together on a standard type of vehicle. He would like to give up the standee type altogether; the public must be provided with a large vehicle for peak traffic. He believed that the fare collection problems on such large vehicles could be solved. The cost problem might be understood by the public if they took some time on I.T.V.—that would be better than hoping for remission of fuel tax to solve their problems.

Co-operation Needed

A plea for operators and manufacturers to get together on vehicle design was made by Mr. Donald Stokes (Leyland Motors) who said his company alone made 42 types of double-deck chassis—far too many. Manufacturers had done their part with large-capacity models, new suspensions and transmissions and other innovations. But the user wanted production of old models to continue, so they built less and less of more and more—and it was costing the user money. He could not understand why the stressed skin should not go on the outside of the vehicle; it would reduce overhaul costs.

Alderman L. Chaffey (Birmingham City Transport) advocated the issue by the Government of grants for roads of secondary nature, especially in cities. Very little of the money taken by the Government from the road transport industry was given back; as a result buses ran as much as 45 min. late on a peak period journey.

The Double-deck Bus

Dealing with the paper by Mr. F. H. Clayton, deputy general manager, Liverpool Corporation Passenger Transport (summarised in this issue), Mr. E. L. Taylor (B.E.T.) saw no reason why operators should be anxious to reduce the number of buses because of the traffic congestion. Road traffic had more than doubled in the past 10 years, but he did not know of any case where more buses were now going through city centres. There was no doubt where congestion came from. The buses had 70 passengers on board and the private cars 1¼ each. He also dealt with the question of smoking passengers on the lower decks of Ribble buses.

Mr. D. G. Stokes (Leyland) said it was hard to criticise the paper—the views coincided with his own. The chassis manufacturers had excellent training schemes and had supplied numbers of engineers to bus companies. They were now trying to devise a scheme to get operators' engineers into their shops—men of high calibre. He would be very pleased to co-operate with Mr. Clayton in designing a bus. He wondered about the nearside front staircase from the safety angle. The quickest way to load or unload was undoubtedly by having the entrance ahead of the front wheels. The ideal in unit construction was to have all the units to last the same time. The engine could now go 300,000 to 400,000 miles without attention. He noted that Mr. Clayton was prepared to pay for a split axle; operators had a tendency glibly to offer to pay extra for such items at conferences and then when tenders were issued they changed their minds.

Maintaining Service Frequency

Questioning whether it was right to have a 95-seat vehicle when a 44-seater was good enough most of the day, Mr. G. H. Pulfrey (Kingston upon Hull) said the Americans had decided it was cheaper to have a 40-ft. single-decker. Nevertheless there was justification for the large vehicle in some big cities. In Kingston upon Hull they were up against unlimited cycle competition; then by maintenance of frequency and with one-man operation at 6d. to 8d. a mile cheaper they might get somewhere. Reading had issued statistics on rear doors showing a greatly reduced accident rate.

A stumbling block to the realisation of the big double-decker was the tyres, said Mr. S. C. Vince (B.E.T.), who said we wanted a smaller tyre with a bigger capacity. It was optimistic to expect a 9-ton unladen weight for 95 seats—before the designer knew where he was it would be 10 tons 5 cwt. unladen plus 95 by 1¼ cwt., or another 6 tons for passengers. He thought a flat engine at the rear more difficult to maintain. A jig built body might still become deformed in service.

Mr. F. G. Parnell (Automotive Products) brought out the calculation that the energy to be absorbed by the brakes with a 12-ton bus at 30 m.p.h. decelerating at 18 ft. per sec. per sec., equalled 1,200 h.p. or 10 times the horsepower of the engine. Although valuable in the Alps exhaust braking did not seem to have proceeded as far as expected in this country. A lot was thought of electrical braking in France, but it weighed and cost a lot. He referred to various forms of water brake and to the low brake costs of trolleybuses, although regenerative braking had never quite come off. It came to how much the operator wanted to pay (a) in weight and (b) in cost. He thought the twin plate clutch might be worth while on large buses. But as a passenger the important question to him was how far he had to walk to the route and how long he had to wait in the cold for the bus. Perhaps for those like him the smaller the bus the better.

Jigging and Bus Bodies

Everybody liked rationalisation or standardisation as long as it meant what they wanted, observed Mr. H. A. Cook (Weymanns), who said the answer to jigging the bodies was the bodybuilder had to deal with at least four chassis manufacturers, one of whom alone had 42 types, and some 300 body varieties might be needed. Bodies certainly did get deformed in the course of time but premature destruction could be blamed, apart from Norman Dean's roads, on Stockton and Darlington type springs. Surely there was no need for operators to worry about weight—bodybuilders would produce bodies of negative weight to counteract that of the chassis!

Mr. A. R. Fryars (A.E.C.) said the double-deck bus was becoming an increasing problem to manufacturers owing to the diminution in numbers built, especially since the single-decker had developed on different lines since the introduction of the underfloor engine. The United Kingdom was becoming specialised in the double-deck field whereas the rest of the world was going over to the standee type single-decker. The production engineer thus had some difficulty in making the best use of the costly tooling he had to lay down for double-deck output.

Indebtedness to Mr. Cook for remarks on suspension, which tyre manufacturers were trying to improve, was expressed by Mr. W. A. Moens (Dunlop). The tyre had to wrap round the brake drum and in order to get wheels smaller could the disc brake help, he asked. Tyres of the same nominal dimensions as 30 years ago were today carrying heavier loads at higher speeds and with the same ply ratings. Development was continuing with new and better materials. It might be possible to reduce wheel diameters a little—by substituting a 16-in tyre for a 20-in. the rolling radius of the wheelarch could come down by 2 in. He would like to be informed if someone was going to start serious design work on the 95-seat bus so that the tyre manufacturer could also start putting lines on a drawing board.

Clearance in Stations

Alderman John Rafferty (Leeds) referred to the difficulties with clearance and overhang of the new and larger vehicles when negotiating fixed structures such as bus stations. A gloomy note was struck by Mr. G. A. Cherry (Birkenhead), who queried if the savings of the large bus were as much as Mr. Clayton estimated. The 95 seats was reversion to tram capacity, but speed in Liverpool, for example, was controlled by street conditions and he thought wages might absorb the apparent savings.

Mr. A. A. Jackson (Bolton) said that conductors found it easier to collect fares from 73 seated passengers than from 60 seated and 8 standing. He was trying to get more passengers to go upstairs and had inserted plastics panels in bus roofs to make the upper deck lighter and more inviting. He thought the problem of fare collection needed examination—trams of the 95 passenger type were running slower. Mr. R. Edgley Cox (Walsall) said that his low height buses with entrance behind the front axle were very attractive. The layout avoided a constructed gangway in the front wheelarch area. Direction of staircases was important if large numbers of passengers were standing in the stairs during brake applications.

Pointing out that many operators had a summer and winter peak problem instead of a daily one, Mr. A. S. Woodgate (Southdown) said he saw no reason why a passenger should not go upstairs to see the scenery on an interurban route; if the large double-decker was used in the off-peak as a one-

(*Continued on page* 12)

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24

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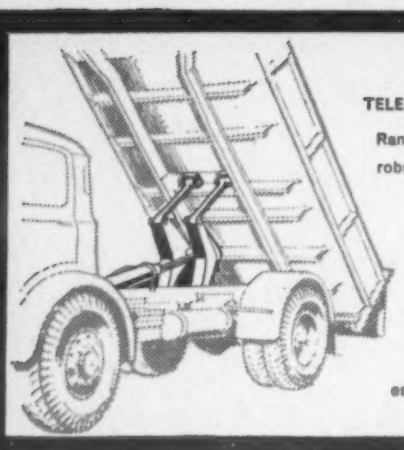

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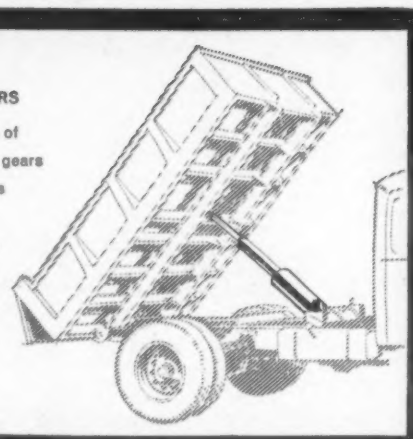

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This range consists of single and twin ram gears suitable for payloads from 8 to 10 tons. Telehoist slant type gears are specially designed to provide maximum stability during tipping.

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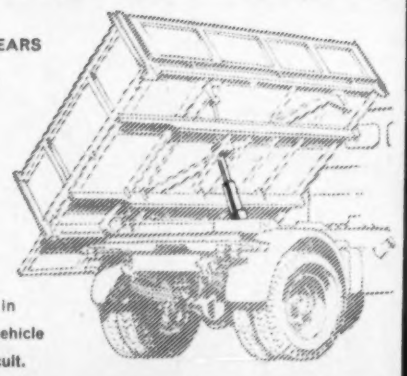

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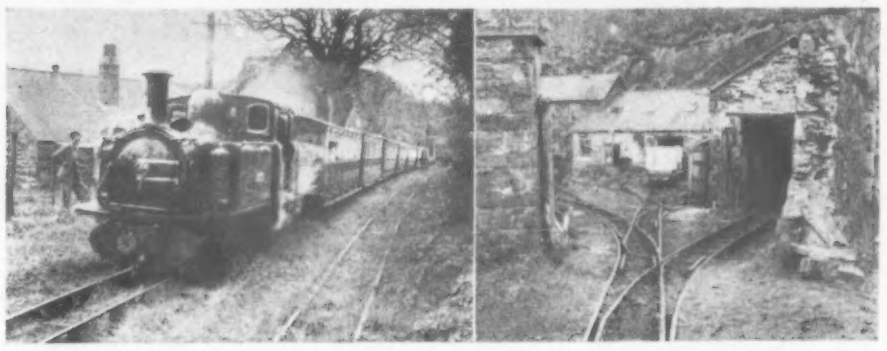
NEWS FROM FESTINIOG

Traffic Receipts Doubled in a Year

FROM the recent annual general meeting of the Festiniog Railway Society came news of yet another successful year. Membership of the Society shows an increase of 20 per cent over 1957, whilst on the traffic side passenger receipts advanced from £2,950 to £6,632, and the operating mileage was doubled. Altogether more than 60,000 passenger journeys were recorded during the season, and the overall rate of expansion was such that both income and expenditure were more than twice that of the previous year.

The main cause of this rapid progress was the reopening of the section of line between Penrhyn and Tan-y-Bwlch in March, 1958. At that time it was anticipated that a further section between Tan-y-Bwlch and Ddualllt would be ready in time for the 1959 season, but although this work is in progress, it has been slowed down in deference to the needs imposed by the heavy growth of traffic on the present 7½-mile system. Operation recommenced last weekend for the summer season when the line to Tan-y-Bwlch was formally reopened by Major-General G. N. Russell, president of the Institute of Transport and a member of the Eastern Area Board of British Railways.

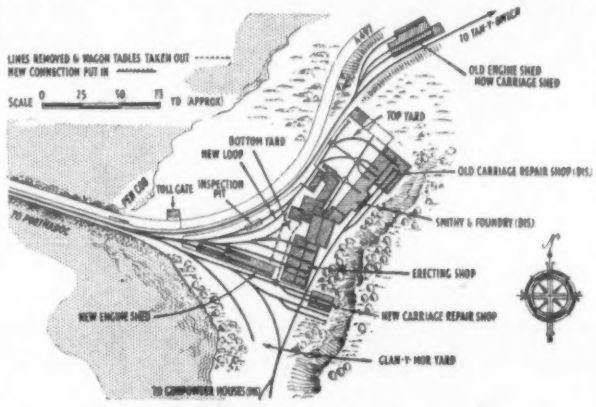


"Taliesin" at Minffordd on the special train worked on the occasion of the annual general meeting; relaid track at Boston Lodge

Reconstruction at Boston Lodge

To this purpose improvements achieved during the past 12 months include the bringing into use of a new engine shed within Boston Lodge works yard, and the relaying of all the track in the yard, and the provision of a new run round loop to facilitate the servicing of locomotives. The old engine shed up the line is now the carriage shed, and the unserviceable stock which was in store there has now been transferred to the goods shed at Portmadoc. The former carriage and wagon repair shop at the rear of the works is now disused, and the erstwhile carriage shed in Glan-y-Mor yard, which was partly demolished by a rock fall, has now been rebuilt and adapted for this purpose.

The shortage of passenger rolling stock is still a severe handicap, although last year saw further progress towards an ultimate solution with the introduction into service of three of the diminutive four-wheel "Birminghams," and one bogie vehicle. At present a recently discovered Welsh Highland coach is under reconstruction at the works, and we understand that this will soon be joined by a carriage off the Lynton and Barnstaple which has been recovered from the humble obscurity of serving as a fowl pen at Snapper Halt in Devonshire.



Alterations carried out at the Boston Lodge yard

Motive Power

Concerning the motive power, it has now been decided to postpone the rebuilding of the Peckett 0-6-0 saddle tank, and in lieu of this project work is now already well advanced on the renewal of *Merddin Emrys*, the other surviving 0-4-4-0 Fairlie, and it is hoped to have her back in service in time to help out with the peak period traffic in August.

Naturally as maintenance requirements become heavier, the need for more permanent staff is inevitable, and it is pleasant to learn that these jobs are open to retired railwaymen. In July the staff will be joined by Mr. William Hoole, a top link driver of the Eastern Region. How much better it is that such a man should be able to continue with the work that he enjoys, rather than suffer the frustrations of an unwanted retirement, or the miseries of a job that is alien to his wealth of skill and experience.

Voluntary Labour

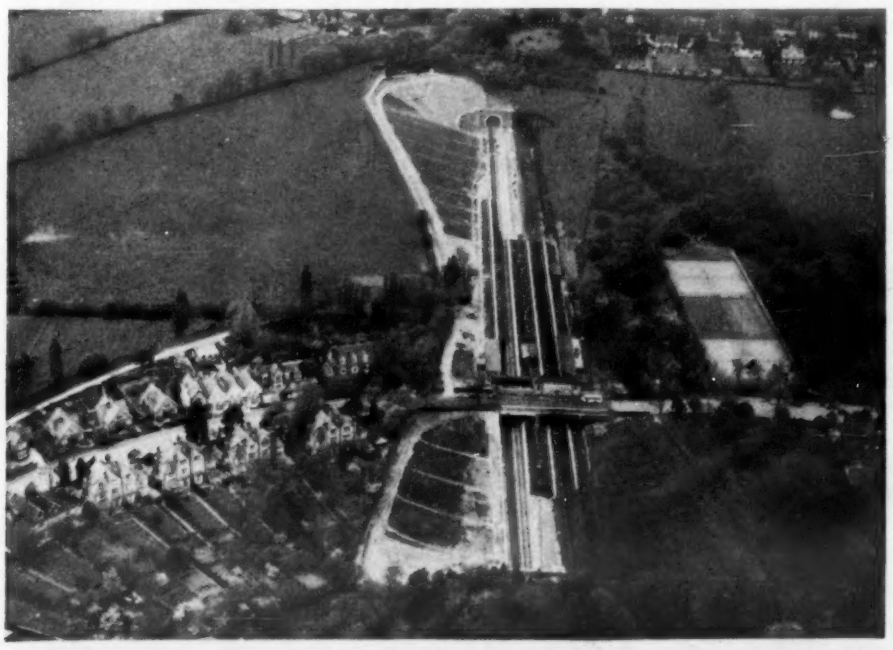
In this and a variety of other ways the Festiniog Railway Society is performing a public service which has gained its members and activities a great deal of local esteem. Already two slate firms have said that they will put their traffic back on the railway when it gets through to Blaenau, but be that as it may, it nevertheless indicates something of the encouragement and goodwill that has been won by their hard work and enthusiasm.

Most of the necessary labour is provided by the area groups which organise working parties on a scheduled basis throughout the year. Transport and accommodation is usually contrived as cheaply as possible by sharing facilities, and for many members it is a welcome way of spending a relatively inexpensive working holiday. Despite its greater distance from Festiniog than the other groups, London musters a regular working party each weekend. These zealots leave by road at 10 p.m. on Fridays—spend the whole of Saturday on the job, and return to London by 10.15 p.m. on Sunday—presumably still fit and able to follow their normal occupations on Monday morning.

A new sub-office of the English Electric Co., Limited, has been opened at 14 Albert Road, Middlesbrough (telephone Middlesbrough 44346-7).

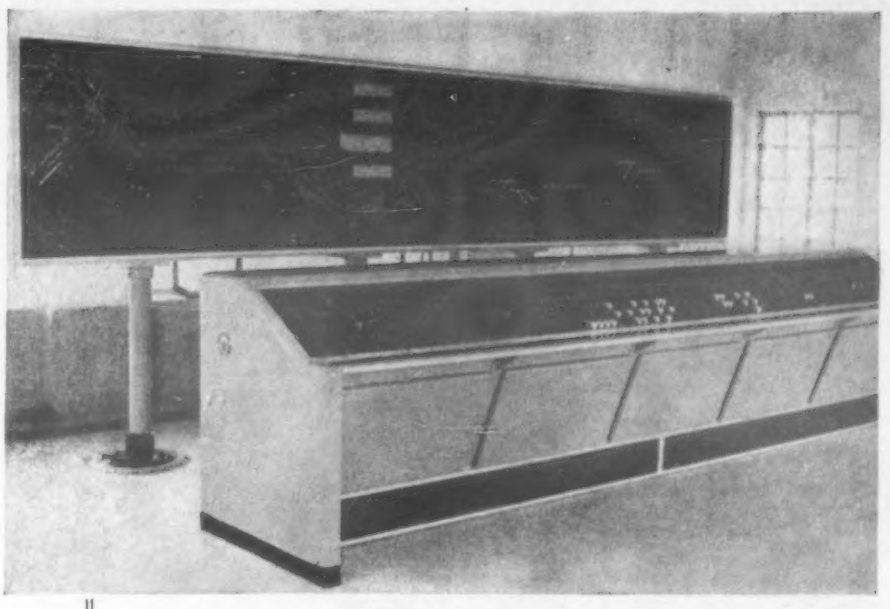
Turner Brothers Asbestos Co., Limited, Rochdale, has added to its already extensive range of woven asbestos cloths, several qualities having a coating of bright and highly reflective aluminium. The new materials are of particular interest to industries concerned with thermal insulation problems, particularly those connected with shipbuilding and fitting out, as well as gas turbine and aircraft manufacture. These special fabrics are also being adopted for fire-fighting and other protective clothing applications.

GREENWOOD—POTTERS BAR WIDENING



This view by Aerofilms, Limited, shows the Great Northern Line of the Eastern Region at Hadley Wood, looking north, with the new tunnels, part of the widening scheme between Greenwood and Potters Bar. The widening was formally opened by Sir Brian Robertson, chairman of the British Transport Commission, on May 20, at the new Hadley Wood Station

The first major modern signalling of its kind in India



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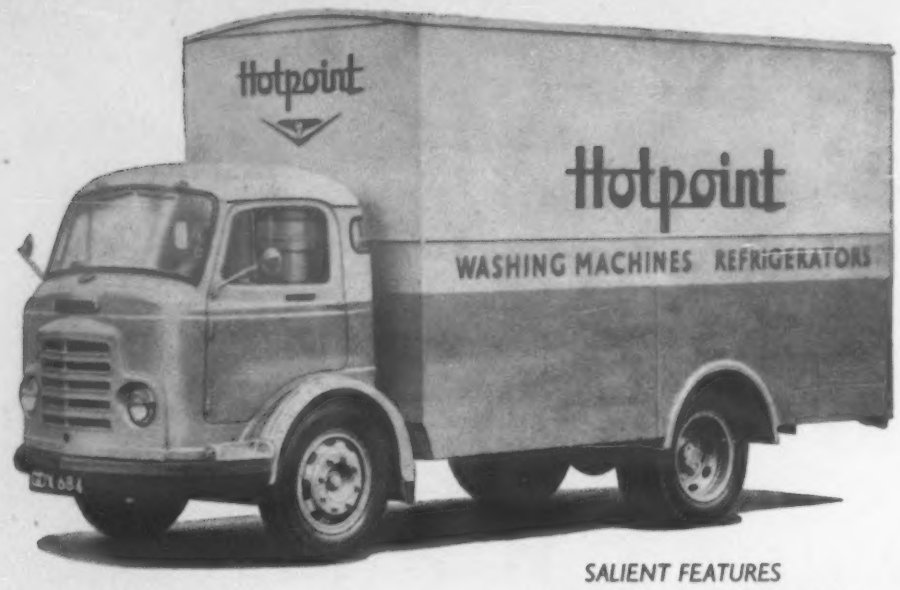

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NEWS FROM ALL QUARTERS

Barking Flyover in Full Use

Both lines over the main flyover at Barking on the Eastern Region came into full use on May 11. The up line was first used in January this year. Work starts shortly on the reconstruction of the station.

Ilford Broadway Roadworks

Ministry of Transport grants have been authorised towards the reconstruction of the Ilford Broadway junction, by improving both the Cranbrook Road and Ilford Lane approaches. Ilford Station bridge is at present being widened.

Inner Ring Road for Wolverhampton

As the first section of an inner ring road Wolverhampton Corporation is to construct a new road between Dudley Road and the junction of Worcester Street and Penn Road, with the aid of an M.o.T. grant. This first section will enable heavy industrial traffic from Birmingham and the Black Country to proceed north-westwards without entering the central business and shopping centre.

Gloucester By-Pass Completed

The last section of the important Gloucester by-pass was opened to traffic on May 11. The new road runs from Stroud Road (B4072) to the Bristol road (A38) and includes a new bridge over the Midland and Western Region railway lines at Tuffley. It has taken two years to build and has cost more than £200,000. This section is the final link in an eastern ring road for the city of Gloucester.

Parking Meters for Provinces

The first move has been made by the Minister of Transport towards the introduction of parking meters in cities and towns outside London. He has made an order enabling Birmingham, Bristol, Derby, Leeds, Liverpool, Manchester, Nottingham, Salford, Sheffield and Southend-on-Sea to apply for the designation of parking meter places. In Scotland, Edinburgh is the subject of an order. The order requires the affirmative resolution of both Houses of Parliament and each individual scheme is subject to the Minister consenting to make a separate designating order.

Seattle Monorail Planned

To provide an elevated monorail line between the centre of Seattle (Washington) and the site of the Century 21 Exposition, opening about a mile distant in May, 1961, the Seattle Transit Commission has selected the Lockheed Aircraft Corporation. The latter will build three four-car "airtrains" which will cover the distance in 94 sec. Each car will accommodate 24 passengers. The exposition, which is designed to portray "man in space," will be on a 74-acre site with little parking accommodation, hence visitors will be expected to use the monorail. In fact, it is hoped that the $5 million installation will pay for itself during the 18-month run of the exposition; after that it would continue to serve the site, which would be redeveloped as a civic centre, with entertainment features.

European Unit Load Systems

The International Container Bureau has produced a small booklet illustrating and briefly describing some of the unit load techniques employed by member railway and road transport undertakings. An English edition will be available. The I.C.B. is to organise an exhibition in Milan from April 12 to 27, 1960, during the course of the International Fair.

Rhodesia Railway Museum

Rhodesia Railways has recently formed a small committee to deal with the collection and arrangement of items of railway historical nature for display in the proposed new National Museum to be built at Bulawayo in the next few years. Large items available include a 7th class locomotive, Jack Tar locomotive, Rhodes' coach and one of the passenger trolleys once used at the Victoria Falls Hotel.

Czech Rail Electrification

The Czechoslovak State Railways announced recently that by 1962 the major part of the heavily trafficked rail routes in Czechoslovakia, a total of about 680 miles of track, will have been electrified. At present some 210 miles of track has been turned over to electric traction. By 1970, states the administration, 70 per cent of the country's rail traffic will be operated by electric traction and the remaining 30 per cent by diesel traction of various types.

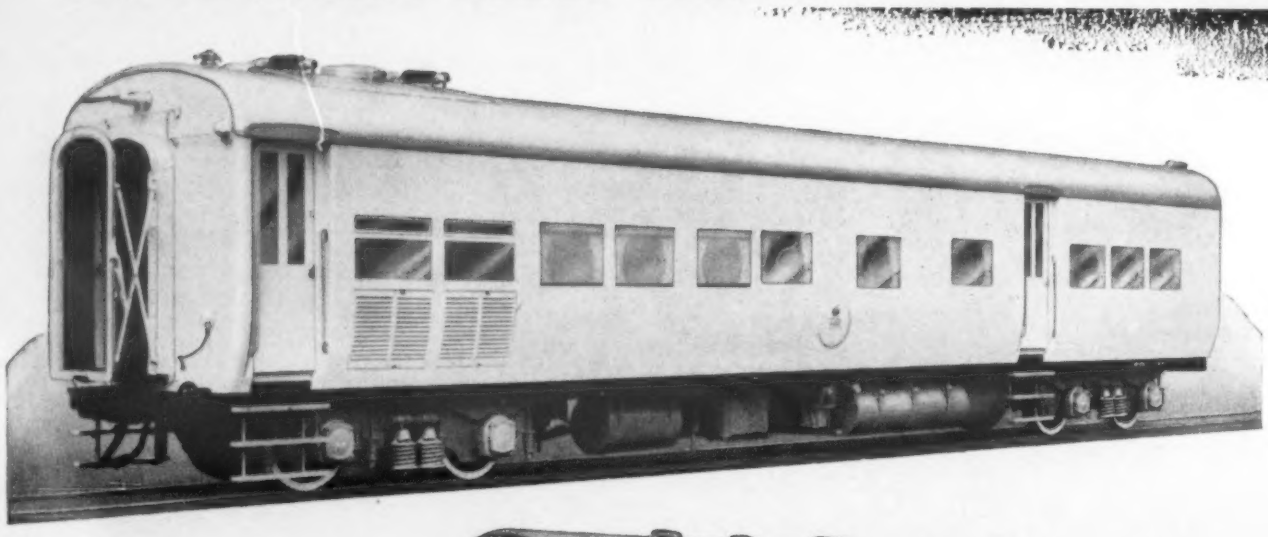
C.P.R. Administration Reorganisation

The Canadian Pacific Railway is to undergo a coast-to-coast reorganisation of territorial administration on July 1. The present three regions will be replaced by four, having 32 operating divisions and reporting to the system headquarters at Montreal. The four regions will be: Atlantic, with headquarters in Montreal comprising lines east from Ottawa to the Atlantic Coast; Eastern (headquarters Toronto), covering lines west of Ottawa to the Lakehead and the Great Lakes steamship service; Prairie (headquarters Winnipeg) west of the Lakehead to approximately the Saskatchewan—Alberta border; and Pacific, the territory west of the Saskatchewan-Alberta border to the Pacific coast, with headquarters in Vancouver.

Dual Carriageway on Kingston By-Pass

Plans for the improvement of the 30-year-old Kingston by-pass, announced last week, include dual carriageways where they do not already exist, and flyovers at the Bushey Road spur (Raynes Park) and at Shannon Corner (Burlington Road), with appropriate slip roads. The new sections of dual carriageway will be from Robin Hood Gate, Kingston Vale, to Shannon Corner (2¾ miles) and from Woodstock Lane, Hinchley Wood, to the Marquis of Granby roundabout at Esher (Portsmouth Road) (1½ miles). The Ace of Spades (Hook) underpass should be completed next spring. Eventually it is intended to throw off a spur south from the Kingston by-pass to by-pass Esher, a notorious traffic hazard on the Portsmouth Road. Work on the Kingston by-pass should start before the end of the present financial year.

COACHES FOR RAILWAYS IN AFRICA . . .



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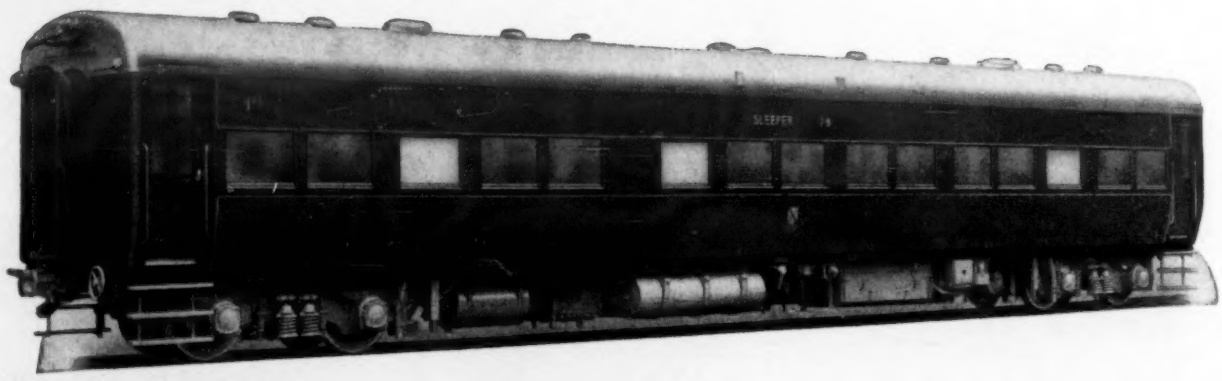

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COMMERCIAL AVIATION

Silver City Seeks Longer Routes

ANGLO-CANADIAN AGREEMENT

CAR ferry services running deep into France and Germany are the subject of air route licence applications by Silver City Airways. They are for flights between Ferryfield or Manston (Kent) and Cologne, Cormeilles (for Paris) and Auxerre. During the autumn, winter and spring services would operate during the day and during the peak summer months at night. If the licences are granted, it is hoped to start the Cormeilles service in September.

Skyways Serves Tunis

By re-routing its weekly London—Malta—Nicosia service to call at Tunis between London and Malta, Skyways will, from June 2, provide a weekly direct service between London and Tunis. It can also carry passengers between Tunis and Malta, but cannot accept London—Malta bookings.

Airport for Madeira

The Portuguese Ministry of Communications has announced that an airport will be built in Madeira and the flying-boat link hitherto used will be scrapped. The decision was based on two main factors The rough seas at Madeira during the height of the tourist season and the fact that flying-boats were going out of production.

Manchester Airport Traffic

Manchester Airport Committee reports that freight handled at the airport in 1958 totalled 15,669,208 lb., of which 16.2 per cent was international, 31.6 per cent domestic, 40.7 per cent Dublin and 11.5 per cent charter and private. The total for freight and mail was 21,046,126 lb. Terminal and transit passengers totalled 511,912.

B.O.A.C. Excursion Fare to Jamaica

This summer the British Overseas Airways Corporation is to offer a reduced 17-day tourist-class excursion fare on its flights between New York and Jamaica. The new rate of $162 for the return trip will be available from June 1 to December 15 and the fare will cover passage either to Montego Bay or Kingston. Passengers taking advantage of this special fare will have the option of making a stopover in Nassau. In addition to the new low excursion rate B.O.A.C. also offers a 30-day tourist-class fare of $186.10 return between New York and Jamaica.

U.K.—Canada Air Talks

The Canadian authorities have now agreed that B.O.A.C. may serve Toronto on its transatlantic services. This is in addition to the corporation's existing services between the United Kingdom and Montreal, already authorised under the United Kingdom—Canada agreement. In return, certain modifications have been agreed to the routes which the Canadian airlines are authorised to operate under the agreement. These include new rights for Trans Canada Airlines to carry traffic between London and certain points in Europe. This agreement resulted from the civil aviation discussions recently held in Ottawa and is regarded as an important step in the development of closer co-operation between the two countries in civil aviation matters. The changes in the routes are to take effect from March 1, 1960.

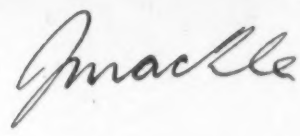
Allison 501 Engines for 1,000-hr. Operation

Allison Model 501 turboprop engines powering Eastern Air Lines' new fleet of Lockheed Electras have been approved by the Federal Aviation Agency for 1,000-hr. operation before overhaul, it was announced recently by Mr. E. B. Newill, vice-president of General Motors and general manager of the Allison Division. At the 400-m.p.h. cruising speed of the Electra, this is equivalent to 400,000 miles of continuous operation. It confirmed a F.A.A. 1,000-hr. authorisation given last August subject to a test inspection of four engines at 800 hr. and two more at 900 hr. Four of the engines in service since Eastern inaugurated Electra service in January were returned to Allison early in April for 800-hr. overhaul and inspection. Engines scheduled for 900-hr. inspection arrived with Allison less than two weeks later, were torn down and given a thorough inspection within hours of arrival. Less than 24 hr. later, Eastern was notified it could fly to 1,000 hr. an engine. This is the longest time yet authorised by the F.A.A. for a U.S. gas turbine engine.

British Traffic in February

During February capacity ton-miles offered by United Kingdom airlines on their scheduled services increased by 10.7 per cent and total traffic carried rose by 10.1 per cent; freight ton-miles increased by 11.1 per cent and mail ton-miles increased by 3.9 per cent. 167,571 passengers were carried, or 5 per cent more than in February, 1958, and these passengers travelled 142.6 million passenger-miles, or 10.7 per cent more. The overall load factor fell from 55.1 to 54.8 per cent. During the four-week period ended February 28, 1959, capacity operated on B.O.A.C.'s scheduled services went up by 10.2 per cent compared with the corresponding period in 1958—capacity on Western routes increased by 27.5 per cent and on Eastern routes by 1 per cent. Total traffic carried rose by 31.8 per cent on Western services but decreased by 5 per cent on Eastern services. The total of 31,420 passengers carried by B.O.A.C. was 5.4 per cent more than during February, 1958, and these passengers flew 89.7 million passenger-miles, or 10.5 per cent more. The overall load factor dropped from 54.9 to 53.3 per cent. B.E.A. offered a total of 10.2 per cent more capacity on scheduled services in February, 1959, than in the same month last year; capacity on international services increasing by 13 per cent and on domestic services by 0.8 per cent. Traffic carried rose by 12.4 per cent and 79,796 passengers, or 7.4 per cent more, travelled on international routes and 46,783, or 2.7 per cent more, travelled on domestic routes. The overall load factor rose from 56.5 to 57.6 per cent. The private concerns operating in association with the corporations provided 13.4 per cent more capacity ton-miles on scheduled services in February, 1959, than in February, 1958, international capacity showing an increase of 18.4 per cent and domestic capacity showing a decrease of 29.5 per cent. International freight traffic went up by 77.6 per cent while domestic freight rose by 100.1 per cent. Passengers carried totalled 9,572 or 4.9 per cent less. There was a decrease of 3.5 per cent in the number of passengers carried on international routes and a decrease of 7.6 per cent on domestic routes. The overall load factor rose from 50.3 per cent in February, 1958, to 60.6 per cent in February, 1959.

S.R.P.T.A. PRESIDENCY



Mr. J. MACKLE, M.Inst.T., A.M.I.Prod.E.

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The newly elected president of the Scottish Road Passenger Transport Association is, as already recorded in MODERN TRANSPORT, Mr. Joseph Mackle, general manager of Belfast Corporation Transport Department. Born on April 28, 1898, he interrupted an engineering apprenticeship to join the Army in 1915, seeing active service with the Royal Berkshire Regiment and the Mechanical Transport Section of the Army Service Corps on the Belgian, French and Italian fronts. After demobilisation he became works manager with Alister Kirk and Co., Limited, a Belfast firm of commercial vehicle engineers. In 1926 he became chief engineer of H. M. S. Catherwood, Limited, which was at that time developing extensive services in both Northern Ireland and the Irish Free State. Concerned at the growth of road competition, the Great Northern Railway decided to develop its own facilities and on January, 1, 1929, Mr. Mackle took up the new appointment of road motor superintendent, wherein he was directly responsible to the then general manager, the late Mr. J. B. Stephens, for the whole of the traffic, engineering and commercial operations of the new department; this was developed throughout the G.N.R. territory. Four years later he was appointed superintendent, coachbuilding and motor omnibus departments, Belfast Corporation Tramways Department, and, in 1937, he was given the responsibility for both engineering and staff training in connection with the introduction of experimental trolleybus operation. In 1939 he was made rolling stock engineer and in the following year he became acting deputy general manager. During the 1939-45 war he raised, trained and commanded the transport department's detachment of the Ulster Home Guard. With the return of the general manager, Colonel R. McCreary, from active service, Mr. Mackle returned to the post of rolling stock engineer in 1945 and was then made acting deputy general manager in 1948. His appointment as general manager followed in 1951. A member of the Institute of Transport, he assisted in the formation of its Northern Ireland section in 1943 and was chairman of that section in 1954; he still serves on the committee. He is also an associate member of the Institution of Production Engineers and a member of the Belfast Association of Engineers.

IN PARLIAMENT

Fines for G.V. Offences

LATEST VEHICLE STATISTICS

IN a written answer the Minister of Transport indicated that, out of 7,071 convictions in magistrates' courts for goods vehicle records offences during 1958, in only 672 cases did the penalty exceed three guineas and out of 3,082 convictions for drivers' hours offences in only 497 was the penalty imposed over three guineas. On the p.s.v. side, 41 convictions in respect of drivers' hours were recorded, and in 20 the penalty exceeded three guineas.

Numbers of Goods Vehicles and P.S.V.s

At September 30, 1958, the Minister of Transport told a questioner, the total number of vehicles authorised under A-, B- or C-licences was 1,280,699, compared with 1,245,621 a year earlier. The total number of public service vehicles at March 31, 1958, was 73,822, compared with 74,177.

Not Interested in Atomic Vehicles

MR. J. RANKIN asked the Minister of Transport what official investigations were proceeding into the possibility of producing an atomic powered motor vehicle. MR. G. R. H. NUGENT, the Joint Parliamentary Secretary, said he was advised that the technology of atomic power had not yet reached the stage when application to the propulsion of motor vehicles would be a practical or economic proposition. The answer therefore was none.

Shipping Talks with the U.S.A.

Replying to questions about replacement of merchant shipping tonnage so as to assist the shipyards, MR. H. WATKINSON said the first problem was to improve trading arrangements so as to enable British shipping to get more tonnage. To that end they hoped soon (presumably at the June conference in Washington—EDITOR) to make some powerful representations to the U.S. Government on the subject of flags of convenience and flag discrimination.

Accidents Related to Vehicle Population

MR. G. WILSON asked the Minister of Transport how many persons were killed and how many injured, respectively, in road accidents per thousand registered vehicles using the roads in the years 1938, 1948 and 1958. MR. G. R. H. NUGENT said that 2.2 persons were killed and 74 injured for every 1,000 vehicles in 1938, 1.3 killed and 42 injured in 1948 and 0.8 killed and 39 injured in 1958. He agreed that these figures gave encouragement to those concerned with road safety but no one had reason to be complacent.

To Take Traffic Course in U.S.A.

MR. H. WATKINSON told a questioner that he had approved a proposed visit of two officers of his department to Yale University this autumn to enable them to take the eight-month post-graduate course in traffic engineering organised by the university. Traffic engineering was bound to play an increasingly important part in our general traffic planning if the best possible use was to be made of our existing road system and of additions to it. The L.C.C., Birmingham City Council and a firm of consulting engineers were each proposing to send an engineer to the course.

Goods Vehicles in Meter Schemes

MR. GRESHAM COOKE asked the Minister of Transport why, if the reason for parking places orders was to improve traffic flow, in his advice to local authorities regarding the making of such orders he had not recommended to local authorities that metered parking bays should be available to all classes of vehicles, including goods vehicles, as in the Mayfair experiment. MR. H. WATKINSON said he had told local authorities that it was desirable to make reasonable provision for commercial vehicles as well as for other classes of motor traffic.

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THE DOUBLE-DECK BUS

(*Continued from page 5*)

the operator a choice of bodybuilder. For a vehicle of this length a 19-ft. wheelbase seems reasonable. In order to keep a balanced design, having due regard to tyre loading and swept circle, the front end is allowed to project beyond the front wheels and to this design an entrance ahead of the front wheels lends itself admirably.

Two of the features of the design deserve particular mention as they are a breakaway from accepted practice. Firstly, the staircase is situated on the nearside and approached directly from the entrance. This arrangement has a number of advantages as it increases the circulating area and possibly reduces confusion when boarding and should speed alighting. Secondly, the arrangement of back-to-back seats over the wheel arches would seem to be more satisfactory than longitudinal seats, a particular difficulty with low-height buses, but this is a problem which will only be solved with the introduction of smaller diameter tyres. Regarding the vehicle as a whole it is calculated that the total unladen weight could be kept to 9 tons which is not very much heavier than some of the 30-ft. vehicles shown at the last exhibition. Such an unladen weight would enable the present engine of about 10 litres capacity to be used.

Turning to the vexed question of capital costs it is considered from an assessment of the variations when compared with a normal 30-ft. vehicle having the same type of springing and transmission that the extra cost will not exceed £500. The operation of a bus of this length and weight would require modifications to the Ministry regulations.

Comparison of Operating Costs

Perhaps the most important question in relation to a bus of this design is the operating costs of a fleet of these buses compared with present-day buses. In an endeavour to present as true a picture as possible, a comparison has been made between Liverpool's present-day fleet and the position should all buses be of the 95-seater design. Adding together the various savings the final reduction in operating costs amounts to £524,000 which is approximately 10 per cent of the total cost at the present time. This figure is considered to be a conservative estimate as no account has been made of savings due to lower administration costs and the closing of possibly one or more garages. It is fully realised that the cost analysis is looking well into the future but it is nevertheless necessary to consider the ultimate position if such a drastic change in policy is contemplated.

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FINISHES FOR MODERN TRANSPORT

Vulcan Products Factory Revisited

AS a result of an earlier visit to the Slough factory of Vulcan Products, Limited, some five years ago, we were able to report on the successful development, production and the wide-scale use by transport concerns all over the world of Vulcan Products One Coat Glossex synthetic. Since that visit there have been considerable changes, both in the capacity and composition of the factory and in the variety and versatility of the products manufactured and under development.

Changes in the factory have largely resulted from the acquisition of Vulcan Products, Limited, by Blundell, Spence and Co., Limited, which has been engaged in paint and varnish manufacturing, mainly in the decorating field, since 1811. Blundell, Spence and Co. had already enlarged its interest in the industrial field by the acquisition of John J. Bowater, Limited, of London and West Bromwich, also manufactures finishes which are specially formulated for electrostatic spray application. A range of epoxy-based surface coatings is produced for special chemical-resisting finishes, which include coatings for the interior of road or rail tankers used for carrying corrosive chemicals and petroleum products. The company is well in line with the latest methods and materials used in coach and transport vehicle construction, and it manufactures all the necessary surface coatings and allied products for finishing fibreglass mouldings, including pigment pastes for self-coloured mouldings.

Some of the buildings forming the Vulcan Products factory. The new cellulose shop is the tall building on the extreme right

Application

For coach finishing, cellulose materials are still widely used as they are quick drying and give very hard finishes, but in view of the rather lengthy flatting operations necessary between coats and the final polishing which is necessary to produce a high gloss finish, these are now being replaced by materials such as Vulflo, which dry with the same speed as cellulose but have superior flow and give a high-gloss finish from the gun, thus practically obviating flatting and polishing operations. The synthetic coach finishes which can be applied by brush or spray dry much more rapidly than the old oleoresinous finishes and give harder surfaces; they also retain their gloss for much longer periods. One Coat Glossex has the added advantage that for most colours a durable first-class full-bodied finish can be obtained with one coat of enamel applied over a tinted primer or primer-undercoat.

As with most other technological pursuits, development in the paint industry cannot afford to stand still and the research department is always working to secure greater durability and resistance to abrasion and the ageing effects of climatic conditions. The research organisation must keep pace with developments in other chemical trades such as the field of synthetic detergents which are used extensively in vehicle washing plants. The investigation of developing easier methods of application is continuous. On a longer-term basis there is a movement towards greater use of pastel shades and this had led to the development of new dyestuffs to make these shades permanent and fast to light. Research is continuing in developing improved media which are more non-yellowing and durable than present products.

New Cellulose Plant

Early stages of the expansion at Slough were interrupted in July, 1956, by a fire which gutted the building housing the cellulose plant. Fortunately, prompt and effective fire fighting confined the fire to the one building and was in fact so effective that a storage tank containing 8,000 gallons of white spirit situated a few feet from the cellulose building was saved. In some respects the fire proved beneficial in that a new cellulose plant has been designed and built which incorporates features developed from earlier experience which both improved the safety standards of this most inflammable section of a paint factory and increased the efficiency of handling and production.

The new plant is housed in a new building on the extreme edge of the site and is divided into three separate sections; for raw materials, manufacturing processes, and finished paint storage, with flameproof doors between the sections. All electrical fittings are of the flameproof type, and the most up-to-date plant for air conditioning and fume extraction is incorporated. To comply with the regulations that any spilled liquids must not be permitted to run out of such buildings, the shop floor is sloped to a central sink from which any spilled liquid can be channelled off.

Central Pump-House

Steps have been taken also to keep the quantities of highly inflammable materials stored inside the building at the lowest possible level and both the main solvent stocks and blenders and the nitro-cotton store are outside the main building. Nitro-cotton, which can be dangerous if it is

(*Continued on page 12*)

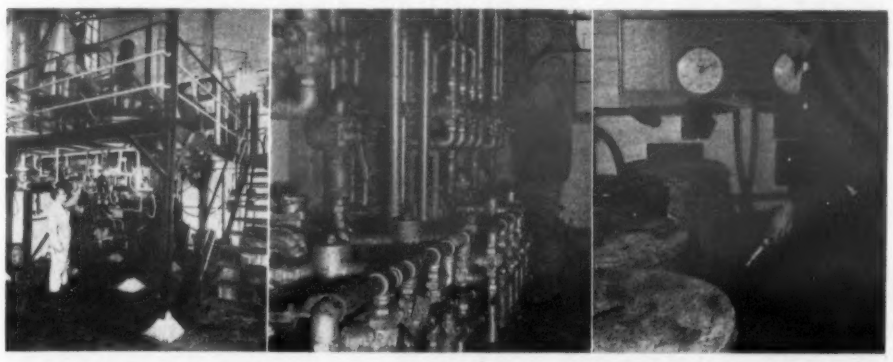
in 1949. During the latter half of last year the manufacturing for both Vulcan Products and John J. Bowater was integrated at Slough to form an industrial division of Blundell, Spence and Co., Limited. This integration has resulted in a considerable expansion of production and also a significant increase in the quantity and variety of transport and industrial finishes being produced.

Meeting Specific Requirements

The requirements of vehicle manufacturers, coachbuilders and transport operators vary considerably with regard to process, method of application and drying characteristics to fit in with production schedules. A modern paint manufacturer, therefore, must be prepared to supply not only a wide range of standard products, but also produce new formulations where necessary to meet specific requirements.

For the normal type of transport finish a number of synthetic resins are in general use which are modified, or combined in different ways, to produce the particular characteristics required in the various types of surface coating. By far the greater part of transport finishes are what are known as synthetic, or alkyd, finishes. Cellulose finishes are still used to a considerable extent and there is a distinct tendency for these cellulose finishes to be superseded by what are known as half-hour synthetic enamels, which are essentially a combination of cellulose and specially formulated synthetic resins. There is an increasing demand for special transport finishes to withstand abnormal conditions and finishes based on epoxy resins or epoxy modified synthetic resins are now being used for a number of these special requirements.

The basic resin or varnish media used in modern transport finishes is manufactured under closely controlled conditions and is made by reacting certain vegetable drying oils with glycerol or pentaerythritol and phthalic anhydride and dissolving the resultant resin in the correct solvent mixture. Pigments, anti-settling agents and other ingredients are dispersed in the alkyd-varnish media by means of ball mills and other grinding machinery.



The No. 1 alkyd varnish pot has automatic electronic and pneumatic controls; a view of the new pump room in which, by manipulation of cocks, any of a very wide range of liquids can be directed from storage tanks to any desired point in the factory; extreme right, drawing off exact quantities of cellulose solvents which are piped into underground mixers outside the cellulose building for blending

The normal cellulose finish consists of pigments, finely ground in a solution of nitro-cotton, to which are added plasticisers and special synthetic or natural resins. The half-hour synthetic enamels consist largely of pigments ground in a solution of nitro-cotton in which is incorporated a relatively high proportion of special synthetic resins and plasticisers.

Vulcan Products Range

A complete range of transport finishes is manufactured by Vulcan Products, Limited, and the demand for the old type of oleoresinous finishes and varnishes has virtually disappeared and is now replaced by synthetic alkyd finishes typified by One Coat Glossex, for brush or spray application. Considerable quantities of Nitraluse, nitrocellulose finishes and Vulflo, self-gloss cellulose, are also produced by Vulcan Products at Slough.

In addition special formulations of alkyd-based coach finishes and cellulose-synthetic finishes for application by hot spray methods are produced, as well as stoving enamels for spray or dipping application for interior fittings. Vulcan Products

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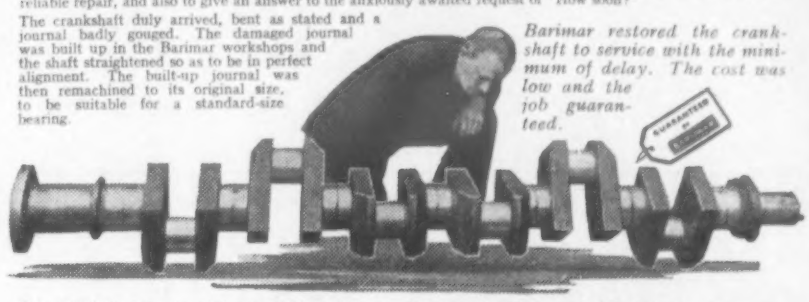

This skilled repair was carried out quickly and conscientiously, and put the crankshaft back into service with a minimum of delay. That shaft might well have been "scrapped" had not Barimar guaranteed a "good as new—sturdier than ever" repair, avoiding the need—and the inevitable delay—of an expensive replacement. How efficient!—For the simple reason that a Barimar repair tag is its own indisputable guarantee. WHATEVER THE DAMAGE—a letter, wire or phone call to Barimar is always a counsel of wisdom and saves time, money and anxiety. Barimar is always available any hour of the day or night.

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Finishes for Modern Transport

(*Continued from page 11*)

allowed to get too dry and is carelessly handled, is stored in drums in an open-sided building. The two solvent blenders are installed below ground level adjacent to an outside wall, and their efficient use has entailed some complicated pipe fitting. The score or so of different solvents used in cellulose production form only part of the much greater variety of liquids used in the general production of the whole factory, and the distribution of these from storage tanks to the many different points scattered over the site where they are to be used has involved an even more complicated piping system. During the expansion and reconstruction, opportunity has been taken to streamline the liquid distribution system. This is now controlled from a central pump-house which

Good fire-fighting confined the fire which destroyed the old cellulose shop in 1956 to the one building and saved 8,000 gal. of white spirit contained in the tank on the right

reminds one of the control point of an oil refinery tank farm although on a rather smaller scale.

Dispensing stocks of solvents to points where they are required for use is entirely by pipeline through this central pump-house. Each of the pumps connects on the suction side with one or more storage tanks, but only with stocks that are intermixable, and on the delivery side with all points in the factory which require to use that particular liquid. Valves adjacent to the pumps on both suction and delivery sides ensure that there is no danger of contamination as each fresh delivery is started.

As well as highly skilled chemists and laboratory technicians for the research and development work which is necessary to keep abreast—or ahead—of current requirements, a modern paint factory also relies for its efficiency on a competent engineering section as much of its production machinery has to be purpose-built or adapted to meet individual needs. Vulcan Products is well served in this respect. The engineering department is divided into four main sections—for the maintenance of road vehicles and works handling trucks; for factory building and maintenance; for electrical installations and repairs throughout the factory; and for general engineering maintenance and the production of special-purpose machines.

Delivery Vehicles

The company's fleet of delivery vehicles are exclusively diesel-engined Fords, of which two are 7-ton lorries and others are vans of from 2-4 ton capacity. Internal works transport is provided by five fork-lift and three pallet trucks of Clark, Coventry Climax, Lansing Bagnall and Douglas manufacture. At present with some petrol and some diesel engines, the intention is to standardise on diesels as renewals are made.

There is much evidence around the factory of the versatility of the general engineering section, including a number of special machines, a standard type of paint container that can be lifted and carried by the fork-lift truck without pallets, a group of new gas-heated furnaces for cooking smaller batches of varnish and a factory-designed and built fume-extraction plant. The engineering section was also responsible for developing and producing a modification for a large proprietary alkyd varnish cooking kettle which improved its efficiency and has since been adopted by the manufacturer of the plant. As designed, the pot was fitted with a tubular-type condenser arranged horizontally and it was found necessary to clean this down after about two batches. The modification changes the position of the condenser to vertical and renders it self-cleaning so that it will operate without attention for long periods.

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FOLKESTONE DISCUSSIONS

(*Continued from page 6*)

man vehicle was there any reason to close off the upper deck accommodation? Mr. T. P. O'Donnell (Ashton-under-Lyne) said he was sure that on short-stage services the optimum seating capacity was about 65, from the viewpoints of cost, fare collection and loading and unloading. On trolleybuses rheostatic braking did make a saving in brake linings; regenerative braking could not be used today because the mercury arc rectifier substation cannot absorb the current sent back to the line.

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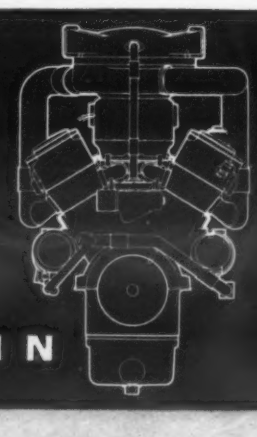

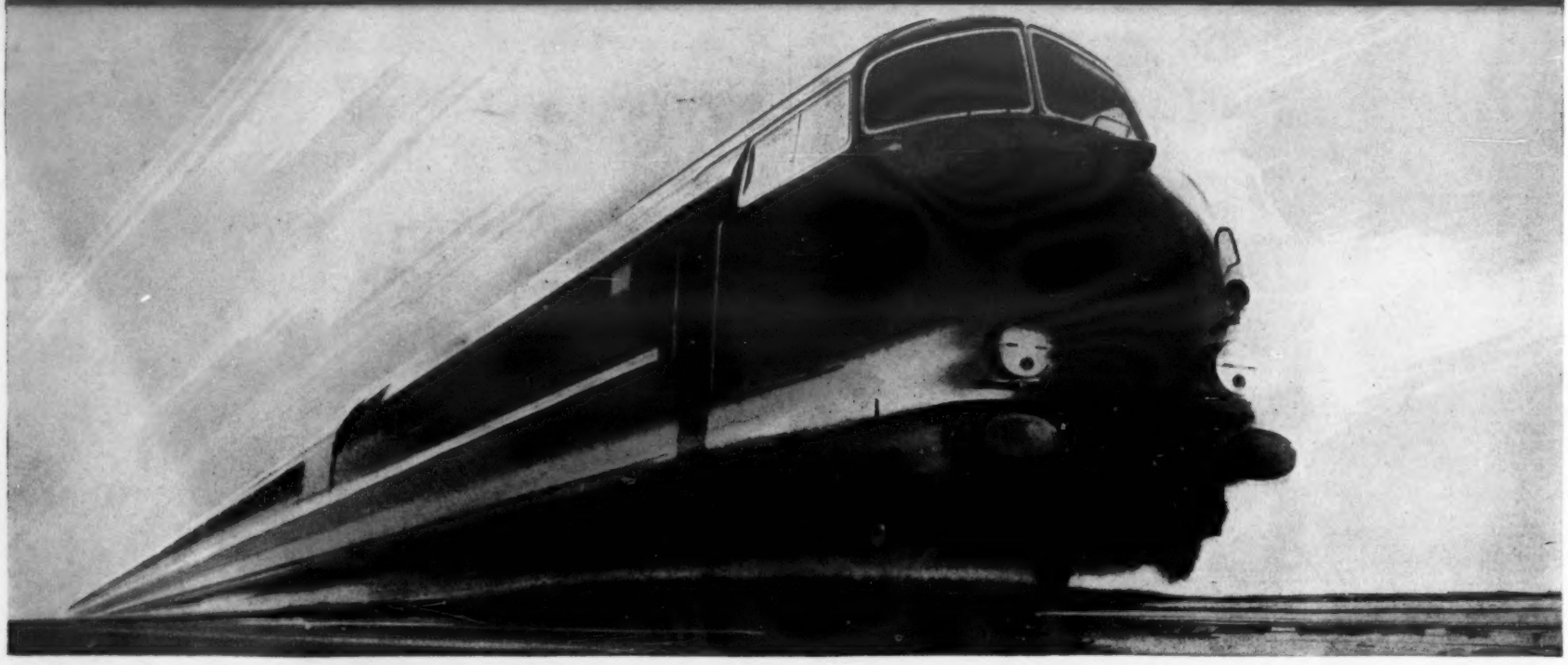

Bristol Siddeley are now manufacturing under licence a range of diesel engines from 220 to 2,000 bhp rail traction rating developed by the world-famous German firm of Maybach, who have had 35 years' experience in the manufacture of diesel traction units. Bristol Siddeley Maybach diesel engines are currently being introduced into British Railways Western Region as part of their modernisation programme.

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L.M.R. CLOSURES

Moves Under Consideration

THE London Midland Region last week confirmed proposals for the closing during 1959 of a number of unremunerative branch lines, passenger services and individual stations. These proposals, like its recently announced freight plan, were part of a long-term plan to streamline the passenger services in order to provide, in conjunction with the introduction of diesel and multiple-unit services (and, later, main-line electric services), not only a generally more reliable service but also increased net revenue.

The proposals had already been discussed with the trade unions concerned and during the course of the year each individual proposal would be submitted to the appropriate transport users consultative committee. Complete line closures under review affected: Bedford—Northampton, Bedford—Hitchin, Rugby—Wigston, Derby—Mickleover—Egginton, Rhydymwyn—Denbigh, Ruthin—Corwen, Whitchurch—Tattenhall Junction, Crossens—Preston, Harrington—Moresby Parks, Plumpton Junction—Lake Side (Windermere), Workington (William Pit) — Blencow (Flusco), Kirkby Stephen—Tebay, Kirkby Stephen—Clifton Junction, and Hooton—West Kirby.

There are 99 individual stations to be considered for closing and also the following passenger services for proposed withdrawal: Bletchley—Oxford, Bletchley—Cambridge, Dunstable—Leighton Buzzard, Kettering—Cambridge, Pinxton—Kimberley, Crewe — Wellington, Uttoxeter — Macclesfield, Blackburn — Hellifield, Chorley — Blackburn, Amlwch—Gaerwen, Chester—Denbigh—Ruthin, Gateacre—Aintree, Ditton Junction—Broadheath, and Chinley—Dore. Local services north of Aylesbury on the Great Central line would be withdrawn. The daytime through express trains from Marylebone to Sheffield, Bradford and Manchester would be withdrawn, and a reduced service provided between Marylebone and Nottingham only. Trains between London and Nottingham would call at: Aylesbury, Brackley, Woodford, Rugby, Lutterworth, Leicester and Loughborough, and these would be the only stations to remain open for passenger traffic on the Great Central line north of Aylesbury.

Plans for New Bridge Over Tagus

LINKING LISBON AND ALMADA ACROSS ESTUARY

RECENTLY the Portuguese Minister of Public Works announced the opening of tenders for the construction of a bridge destined to link the city of Lisbon with Almada on the south bank of the Tagus. The importance of this great project had been recognised for some time, and the Minister referred to a number of earlier plans which, for varying reasons, had had to be abandoned. Although, in face of the difficulties involved, the Government had decided in favour of an alternative bridge at Vila Franca de Xira, farther up the estuary, this had not fundamentally diverted its interest from the Lisbon scheme.

Whilst traffic over the former bridge had doubled during the first three years of its existence, statistics showed that this had had little if any influence on the increased movement registered year by year between Lisbon and the south bank. In fact, the industrial development, coupled with the rise in population on the opposite shore, not to mention the ever-growing tourist attractions of the Alentejo and Algarve regions, were, despite every effort to improve the river crossing by ferry-boat, likely to result in an intolerable situation before long. All this apart, the new Tagus bridge would, by affording a more direct and speedy access to the capital, eventually be instrumental in enriching vast areas of the country with an economic potential not yet fully exploited.

Type of Bridge Envisaged

Tendering firms will be authorised to submit proposals for two alternative types of bridge—one for rail and road and the other exclusively for road traffic. The final decision as to the advantages of operating rail traffic over the bridge or through a tunnel will rest with the Government. In this connection, the Minister stated that, at the moment, the building of a tunnel appeared to be impracticable, due not only to the geological features of the river-bed, but to problems associated with approach lines and the ventilation of the tunnel itself. As to the bridge, a suspension type is envisaged, with one large central span and two smaller spans; there would be two river piers only, so as to cause the least possible interference with river traffic. Another prerequisite is a clearance of from 60 to 70 metres above high water.

At the Lisbon end the bridge will be extended by a long viaduct carried above the city, to connect with existing main highways through a system of clover-leaf junctions. Similarly, on the southern shore a new motor-road, extending for approximately 10 km., will link the bridge with a network of highways already earmarked for this area. Total length of the structure, including the viaduct extension, will be 3,000 metres.

Traffic Flow

For road traffic four carriageways will be provided and these, together with two pedestrian side-walks, will provide a total width of 17 metres, apart from the central strip separating the two traffic-flows. On completion, the bridge is expected to be able to handle a maximum of 6,000 vehicles an hour at the peak periods, and by 1970 the total should reach at least 20,000 on a normal day. If it is decided that the bridge shall carry mixed traffic, a double electrified line of railway is envisaged, and the Portuguese State Railways, which will be entirely responsible for its operation, has given an undertaking to complete the approach lines by 1967. Traffic carried at the inception is expected to reach annual figures of one million tons of freight and 15 million passengers, with increases of roughly 2 per cent per annum thenceforward.

The Minister said that about 10 months would elapse before the proposals were received from the tendering firms. Once the award had been made work was likely to start a year later and to take four or five years to complete. Such a time was justified by the magnitude of the project, for not only would the bridge be one of the largest in the world, but the circumstances underlying its construction were far from being entirely favourable. This applied particularly to the characteristics of the river-bed, the southern-most of the two piers, for example, having to go down at least 80 metres in order to reach a rock foundation. In any event, the entire work would constitute a landmark out of the ordinary in view of the far-reaching consequences for the country's development and prosperity.

TRANSPORT IN PARIS

(*Continued from page* 3)

handed to the Régie Autonome des Transports Parisiens, or Paris Transport Board, but a staff of 34,000 sufficed. On January 1, 1959, the road fleet included 1,400 modern buses, of which 323 were equipped for one-man operation. Another 350 are on order and 800 replacements have yet to be ordered. Modernisation of railway rolling stock has proceeded more slowly as a good deal of development has gone into the pneumatic-tyred trains already described in MODERN TRANSPORT. These are at present employed only on Ligne 11, Chatelet-Mairie de Lilas. Articulated trains, also postwar, on steel tyres, are used on 13, St. Lazare-Carrefour Pleyel and St. Lazare-Porte de Clichy.

Another result of the postwar policy of concentrating urban trunk traffic on the Metropolitain has been to throw into relief inadequate features of a number of the stations and a considerable amount of time and money have been spent on modifying exits and entrances and also subways at connecting stations. Some stations have been rebuilt and at present further modernisation of ticket issuing methods is being considered.

An A.E.C. Reliance with Plaxton Panorama body entered by Sheffield United Tours, Limited, in the 12th International Coach Rally at Nice won the premier award for de-luxe touring coaches other than French ones and the Grand Prix d'Honneur for elegance and passenger comfort. It is here seen during the driving tests when its driver, Mr. R. Tassart, won a medallion for the best performance in the 500-metre test

Editorial reference is made on page 1 to the initiation by British Waterways of a regular service from Paddington Canal Junction to the Zoo with the "Waterbuck"

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OFFICIAL NOTICE

CEYLON TRANSPORT BOARD

VACANCY—POST OF CHIEF ENGINEER

APPLICATIONS are invited from persons with professional qualifications comparable to Associate Membership of the Institutions of Civil, Mechanical or Electrical Engineers (England) for the post of Chief Engineer, Ceylon Transport Board.

The Ceylon Transport Board is a nationalised undertaking operating Road Passenger Transport Service over the entire Island of Ceylon. The operation of the Board's fleet, covering over 300,000 miles per day, is controlled from 58 depots in various parts of the Island.

Applicants should not be less than 35 years of age and be able to organise and maintain a fleet of 3,000 motor vehicles and ancillary garages, workshops, etc.

The post carries a salary of £2,000 per annum, tax free. A motor car and free furnished apartments will also be provided. For an exceptionally well-qualified person, a higher salary will be considered. The appointment will be on contract for three years with option for renewal thereafter if both parties agree.

Applications, stating salary required, age and full particulars of qualifications and experience and accompanied by copies of recent testimonials, should reach the undersigned not later than June 8, 1959.

Candidates will be required to present themselves for an interview at their own expense at the office of the Ceylon High Commissioner for the United Kingdom, at the address given below.

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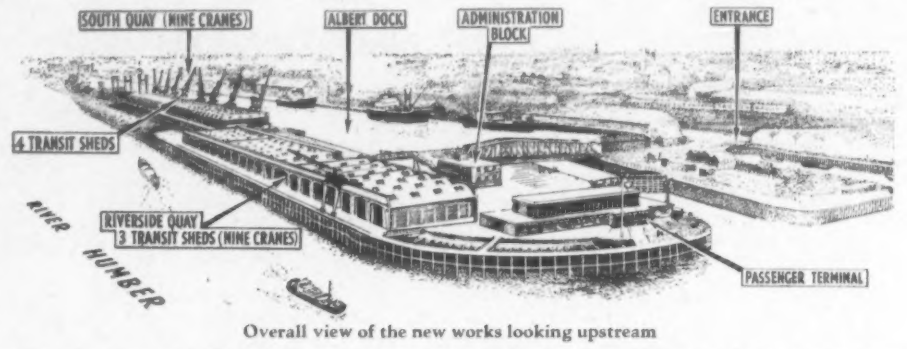
NEW PORT FACILITIES AT HULL

£1¾ Million Scheme Opened by Princess Royal

HULL is the largest port administered by the British Transport Commission, and on the basis of Customs value the third port in the United Kingdom with an overseas commerce of £382 million. Because of its vulnerable position and proximity to the Continent the port suffered very severe damage from enemy action, and the reopening by H.R.H. the Princess Royal of the Riverside Quay (referred to in our issue of May 9) is really part of a vast rehabilitation scheme that has already cost several million pounds. Apart from the Riverside Quay the newly completed works include a 1,513 ft. long quay on the south side of the adjacent Albert Dock, seven transit sheds, a passenger terminal, 18 wharf cranes and a system of roads and railways to serve the area.

The former Riverside Quay was a 2,500 ft. long wooden structure constructed for the North Eastern Railway in 1908, and totally destroyed by incendiaries in an air raid in 1941. It had covered accommodation throughout its length, and a passenger station at its western end. The south side of Albert Dock was mainly a range of transit sheds and warehouses dating from the original construction of the dock in 1867, and dominated by the famous clock tower which was Hull's most familiar landmark. Apart from the passenger traffic that was dealt with here, this was for many years the centre for landing and distributing fruit, vegetable and dairy produce from the Continent—a trade which in recent years has been conducted under great difficulties, and in buildings quite unsuited to modern requirements. Today the port is better equipped to deal with perishables than ever before, and with increased craneage and the ability to deal with ships at all states of the tide, a quicker turnround will enable companies to increase sailings.



Overall view of the new works looking upstream

Layout and Construction

Altogether 1,065 ft. of the old quay has been replaced by an open-piled, reinforced concrete construction which has a berth depth of 19 ft. 6 in. at the lowest spring tides and more than 40 ft. at the highest high water. On the quay there are three transit sheds, each 280 ft. long and 82 ft. 6 in. wide with 20 ft. headroom and front and rear sliding doors. They have a 25 ft. wide unobstructed frontage and a 10 ft. wide platform with railway tracks at the rear. The working area at the front is provided with three 7½-ton, and six 3-ton capacity semi-portal level luffing electric cranes. A curious feature of the old quay which has been perpetuated in the new design is the public right-of-way footpath which is carried up and over the barrel-vaulted roofs of the two western sheds.

The quay on the south side of the Albert Dock is of very similar construction to that of the Riverside Quay, except that it has four slightly larger transit sheds and a 40 ft. wide frontage to accommodate two lines of railway track in addition to a road space. This frontage was gained by extending the existing quay forward into the dock by 40 ft. along its entire length. The two groups of transit sheds are built in alignment so that the railway tracks which serve the rear of the Riverside sheds also run behind the second group, which are similarly equipped with a 10 ft. wide loading platform. The cranes are also of the same type, but comprise eight 6/3 ton, and one of 10-ton capacity.

Road Access

Facilities for road vehicles is provided for by a 30 ft. wide roadway which links both quays and has parking areas and access between the transit sheds. All railway lines are flush-paved in order to permit a free circulation of road traffic, and when necessary to permit vehicles to use the loading platforms. All seven transit sheds are of the same design, with a reinforced concrete framework panelled with hollow concrete blocks supporting concrete barrel-vaulted roofs with prestressed valley beams and roof lights. Altogether (including the quays) the quantity of concrete used in the work was 36,000 cu. yd., with 2,300 tons of mild steel reinforcement, and 70,000 linear feet of high-tensile steel bars.

Although Hull is not primarily a passenger port, it is used by many thousands of people who pass through on their way to and from the Continent each year. Here again, throughout the postwar period traffic has been severely hampered by a total lack of proper facilities—with passengers obliged to shelter from the windy dockside at all hours, in sheds piled high with merchandise, and often exposed to acute discomfort and the dangers of ships unloading their cargoes.

New Passenger Facilities

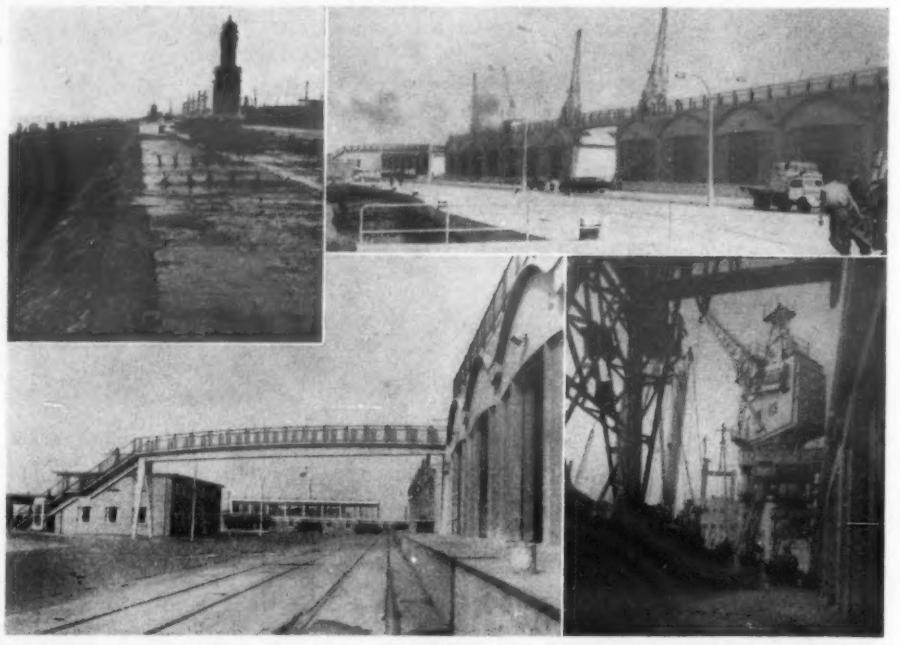
Happily this state of affairs has now been remedied by the provision of a new and roomy passenger terminal which stands at the eastern end of the Riverside Quay. The entire design of this building conforms to the best standards of modern architecture. The construction consists of reinforced concrete frames panelled with glass and brick, and comprises a main hall with a large clerestory, flanked by waiting-rooms, kiosks, vestibules and offices for customs and immigration duties.

While the present £1¾-million project is by far the most costly postwar enterprise undertaken by the British Transport Commission in the reconstruction of the Port of Hull, it is only one of a number of schemes that have either been dealt with, or are currently in hand, along the seven miles of river front.

Earlier Postwar Work

One of the earliest postwar works was the complete rebuilding in concrete of No. 12 quay in the King George Dock. Only two years ago the recraning programme involving 40 new 6-ton cranes with 70 ft. jibs was completed at a cost of £750,000, and with it, the important changeover from d.c. to a.c. power. Then came the installation of four shore-based pneumatic grain elevators which have greatly accelerated the turnround of vessels with the result that the port is now handling a greater bulk than before. At Alexandra Dock, No. 21 quay has been relaid and equipped with five new cranes, which together with the redevelopment of the quay has cost £62,000. A similar sum is now being spent on road-widening and reconstruction schemes. At Victoria Dock the No. 1 quay and shedding have been renewed, and further timber storage facilities have been provided on the site of No. 2 timber pond. One of the largest projects now in hand is at Hull Fish Dock, where the reconstruction of the war-damaged No. 1 Quay and the market will cost almost half a million pounds. At the eastern extremity of the port at Saltend, work is in progress on the oil jetties, and in this connection it is heartening to learn that at more than two million tons the import of petroleum last year was 12 per cent higher than in 1957. Dispatches of iron and steel rose by 7 per cent, and the car and tractor export tonnage by 2½ per cent. Imports of grain were the highest for five years, and arrivals of perishables and other food cargoes rose by 40 per cent. These achievements, coming as they do at a time when shipping is in the doldrums and freights are low, go a long way towards confirming the judgment of the B.T.C. that modern port facilities justify a high initial outlay.

The whole of the present work has been carried out under the supervision of Mr. G. D. Lloyd, chief docks engineer, Humber Ports. The consulting engineers were Sir Bruce White, Wolfe Barry and Partners, London, and the contractor for the civil engineering work; A. Monk and Co., Limited, Warrington. The consultant for the passenger terminal was Dr. F. F. C. Curtis, architect to the British Transport Commission.



Riverside Quay before and, right, after reconstruction. Below: left, footbridge for public right-of-way and, in background, the passenger terminal; right, cranes on the working area

SOCIAL AND PERSONAL

S.M.M.T. President

HONORARY officers of the Society of Motor Manufacturers and Traders for 1959-60 were elected at the council meeting on May 14. The new president is Mr. J. M. A. Smith (assistant managing director of the Ford Motor Co., Limited). He succeeds Mr. Reay Geddes (a managing director of the Dunlop Rubber Co., Limited), who now becomes deputy president. Mr. M. L. Breeden (joint managing director of Wilmot-Breeden, Limited) was re-elected for a second term as a vice-president, and Mr. M. A. H. Bellhouse (deputy chairman of the Pressed Steel Co., Limited) was also made a vice-president as successor in that office to Mr. J. M. A. Smith. Mr. Geoffrey Rootes (managing director of the manufacturing division of the Rootes Group) was elected honorary treasurer for the third successive year. Sir William Black (chairman of A.E.C., Limited, and managing director of Associated Commercial Vehicles) has been additionally appointed as an honorary officer for 1959-60.

* * *

Mr. F. S. Mitman has relinquished the position of deputy chairman and managing director of Borg-Warner, Limited, and is succeeded by Mr. H. P. Troendly.

* * *

Mr. F. M. S. Best, until recently a director and general manager of Rootes Motors (Canada), Limited, has been elected to the board of directors of Commer Cars, Limited. He will succeed as director and sales manager Mr. G. Bragg, who will be retiring at the end of June. Mr. Best served an engineering apprenticeship with Sentinel Waggon Works, Limited, and joined Tilling Stevens, Limited, and Vulcan Motors, Limited (Rootes Group companies) as general sales manager in 1938, to become production manager of Commer cars in 1951. In 1952 he went to Rootes Motors (Canada) as director in charge of commercial vehicle sales and service, and became general manager of the company in 1954.

Mr. F. M. S. Best

* * *

Mr. D. J. Flunder has been appointed general purchasing manager for the Dunlop Rubber Co., Limited, and will in future be in charge of the materials supply division.

* * *

Mr. E. A. Rogers, A.M.I.E.E., M.I.R.S.E., who has been appointed assistant signal engineer (modernisation), B.R. Central Staff, joined the L.N.E.R. in 1925 as an apprentice at Finsbury Park. He was appointed senior assistant in charge of the drawing office of the assistant chief engineer (signals) in 1947. He became indoor assistant, signal and telecommunication engineer's department, Eastern Region, in 1948, and was subsequently appointed assistant signal engineer (new works). In 1953 Mr. Rogers was seconded to the United Nations Technical Assistance Administration as principal lecturer, to establish the Railway Training Centre at Lahore, Pakistan. He was appointed assistant signal engineer (modernisation), Eastern Region, in 1957. He has been a member of the council of the Institution of Railway Signal Engineers since 1957.

Mr. E. A. Rogers

* * *

We record with regret the death of Mr. Kenneth Brook, A.M.I.Mech.E., engineering director of C.A.V., Limited. He was aged 55 years. Mr. Brook joined C.A.V. on the technical sales staff in 1937, and in 1940 was promoted to the position of chief diesel engineer. In 1948 he joined the gas turbine division of the Joseph Lucas organisation, but returned to C.A.V. in 1953. He was made an executive director of the company in 1955.

* * *

The York Institute of Architectural Study announces a summer school, "A History of Railway and Canal Architecture." It will be held August 22-29 and is a repeat of that on railway architecture held for the first time last year, but with the addition of canal architecture. An exhibition of historic prints and documents from the archives of the British Transport Commission will be on show at the Institute, and there will be visits by private canal barge and diesel train.

* * *

The first school to provide evening classes for the Institute of Transport examinations was the former Haverstock Commercial Institute, London, N.W.3. The North Western Polytechnic, Kentish Town, which later took over these classes, is now the first organisation to offer full-time day courses. This will be in the 1959-60 session, and for the graduateship examination. In addition to examination studies, students will attend special classes designed to give them an insight into practical aspects of administration and for this purpose a variety of teaching techniques will be employed, including case studies, role playing, syndicate work, tape recordings of group activities for analysis and discussion. Practical exercises will also be given in the arts of communication, effective speaking, report writing, chairmanship and interviewing, and there will be industrial visits and talks by executives in British industry.

Sir John Elliot

THE board of Thomas Cook and Son, Limited, has now elected Sir John Elliot, who retires as chairman of London Transport on June 30, to succeed Mr. Stanley Adams as chairman of the company and its subsidiaries from July 1. He will also succeed to the chairmanship of the Pullman Car Co., Limited. The board has appointed Mr. Charles Holt, director and general manager, to be managing director of Thomas Cook from the same date. Mr. Adams had for some time sought to be relieved of some of his business commitments and had asked Sir Brian Robertson, chairman of the British Transport Commission, to agree that he should retire as chairman of Thomas Cook and its subsidiaries, and as chairman of Pullman Car.

* * *

Mr. Cyril W. Warwick has been appointed the Ministry of Transport and Civil Aviation freight market representative in succession to Sir John Gibson Graham, M.C., who retired from the appointment owing to ill-health.

* * *

Mr. A. B. Findlay, general manager, Leeds City Transport, recently underwent an operation and is now convalescing. Alderman Rafferty was able to report his good progress to members of the Public Transport Association conference.

* * *

Sir Wavell Wakefield, M.P., has been reappointed president of the Electric Vehicle Association of Great Britain. The chairman is Mr. E. Powell (Chloride Electrical Storage Co., Limited, London), vice-chairman, Mr. A. P. Goddard (Austin Crompton Parkinson, Limited, Leicester) and the secretary, Mr. J. I. Bernard.

* * *

Winners of the Maynard golf cup, played for at Canterbury on the opening day of the Public Transport Association conference, were Messrs. H. R. Burton (Transport Brakes) and A. B. Evans (Hallam, Sleigh and Cheston). The runners-up were Messrs. S. J. Woodhams (Michelin) and G. E. Bell (Birkenhead).

* * *

Perkins Engines, Limited (see MODERN TRANSPORT, April 18) has decided to divide Europe into two separate export zones as a result of its increasing engine sales in Continental countries. Mr. E. Bartlett, B.A.(Cantab.), has been appointed manager of a new West European zone, which comprises Italy, France, West Germany, the Benelux countries, Austria, Switzerland and Algeria. The other new zone consists of Scandinavia, Yugoslavia, East Germany, Poland, Bulgaria, Rumania, Hungary, Czechoslovakia, Iceland, the U.S.S.R. and also Israel. Manager of this zone is Mr. F. Wilkinson, M.A.(Cantab.).

* * *

The London Midland Region of British Railways announces the following staff appointments, redesignations or confirmations in post:

Mr. J. Pollard, to be assistant divisional traffic manager, Birmingham.
Mr. J. H. Hambidge, to be district operating superintendent, Birmingham (New Street).
Mr. F. J. Burge, to be district operating superintendent, Derby.
Mr. T. W. Royle, to be district operating superintendent, Rugby.
Mr. H. Bullough, to be district commercial manager, Derby.
Mr. S. J. Symes, to be district traffic superintendent, Stoke.
Mr. J. J. C. Barker-Wyatt, to be works manager, locomotive works, Gorton.
Mr. T. Lowe, to be staff assistant, chief mechanical and electrical engineer's department, Derby.
Mr. G. E. J. Monson, to be assistant road motor engineer, Euston.
Mr. W. Brownlee, to be assistant district operating superintendent, London (W.).

* * *

Mr. D. S. Jewell, B.Sc.(Eng.), A.C.G.I., A.M.I.MechE., M.I.R.S.E., appointed assistant signal engineer (general), B.R. Central Staff, was educated at Westminster School and City and Guilds College, and joined the former L.M.S.R. as an apprentice in 1936. He was appointed clerk of works in Crewe in 1939 for the installation of colour-light signalling north and south of Crewe Junction. In 1940 he joined the R.A.F. as a signals officer and, on demobilisation in 1946, returned to the L.M.S.R. as a technical assistant in the signal and telegraph engineer's office at Euston. Mr. Jewell was appointed development assistant to the s. and t. engineer, London Midland Region, in 1948 and became assistant divisional signal and telecommunications engineer, Manchester, in 1953. He was appointed divisional signal engineer, Manchester, in 1955.

Mr. D. S. Jewell

Mr. Raymond Birch (left), chairman of the Yorkshire Traction Co., Limited, presents a 25-year service certificate to the traffic manager of the company, Mr. R. Coutts. Mr. Coutts was formerly general manager of the Dearne District Light Railways Joint Committee, whose trams were superseded by Yorkshire Traction buses in 1933

Mr. Rudolf Hahn has been elected president of the Aluminium Development Association for the ensuing year 1959-60. Mr. Hahn represents on the A.D.A. council the Association of Light Alloy Refiners and Smelters, Limited, and he is chairman and managing director of B.K.L. Alloys, Limited.

* * *

Mr. W. Barnett, A.M.I.Mech.E., who joined Leslie Hartridge, Limited, in 1958 as export manager, has now been appointed general sales manager to the company. Mr. Barnett was formerly with A.E.C., Limited, Southall, rising to assistant service manager (technical). He has travelled extensively abroad on market surveys.

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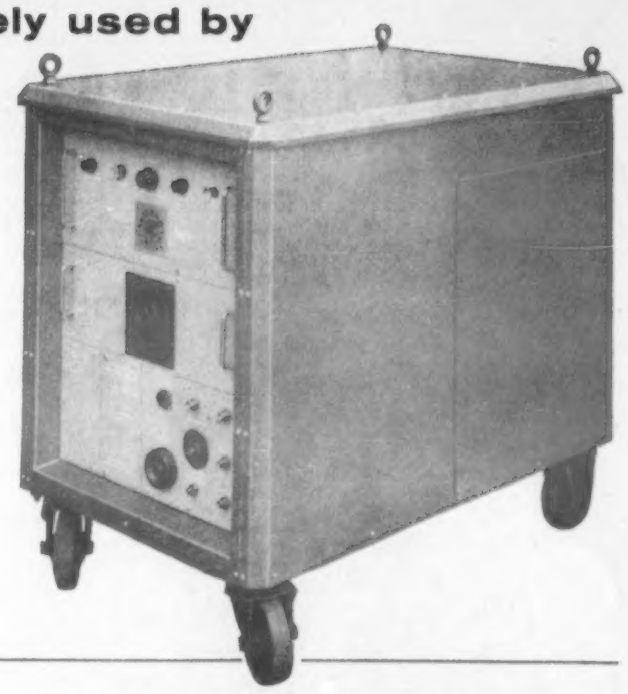

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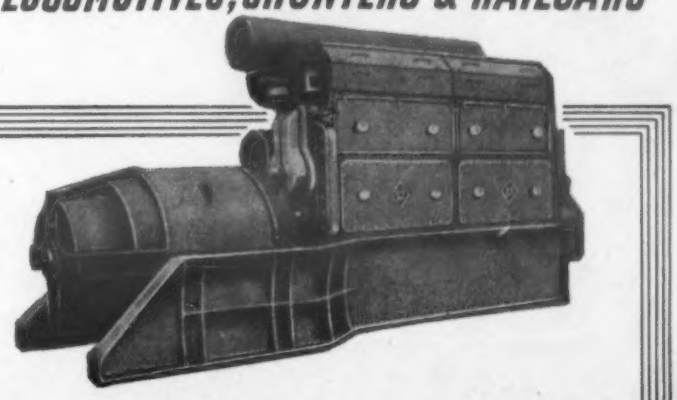

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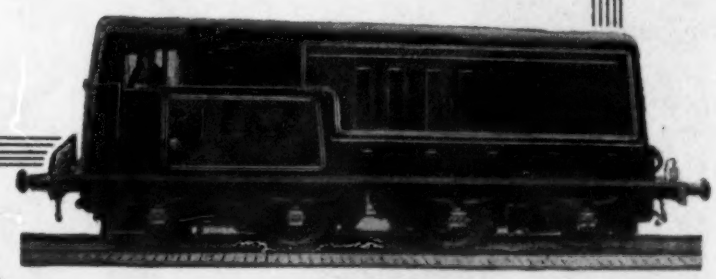

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Enquiries: Queen's Island, Belfast — London Office: 9, Whitehall, S.W.1

BELFAST GLASGOW LONDON LIVERPOOL SOUTHAMPTON

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IMPORTANT CONTRACTS

More Main-Line Diesel-Electrics

THE British Transport Commission has placed further orders valued at over £11 million for 130 main-line diesel-electric locomotives for British Railways. This brings the total number of diesel locomotives ordered for main-line duties in connection with the railway modernisation programme to more than 1,000. About 160 of the locomotives are already in service, and it is hoped that there will be nearly 500 by the end of this year. The 130 locomotives now ordered comprise 55 Type 4 locomotives of 2,000 h.p. to be built by the English Electric Co., Limited, and 75 Type 2 of 1,365 h.p. to be supplied by the Brush Electrical Engineering Co., Limited. Both types although varying in hauling capacity, will have a maximum speed of 90 m.p.h. The locomotives will be allocated on delivery, beginning in December this year and continuing until the end of 1960.

Tyne Engines for U.S. Freight Airlines

Rolls-Royce, Limited, will supply Tyne turbo-prop engines to the value of £4½ million for the 15 Canadair CL44D4 long-range freight aircraft which were ordered last week by the Flying Tiger Line (10) and Seaboard and Western Airlines (5). Both of these United States freight carriers have taken an option on a further five aircraft. It may be recalled that the CL44D4 derives from the design of the Bristol Britannia with various modifications to make it more suitable for the carriage of cargo.

North Eastern Region Contracts

Recent contracts placed by the North Eastern Region of British Railways include the following:

British Thomson-Houston Co., Limited, for supply and delivery of test equipment for diesels to Darlington locomotive works.

Tarslag, Limited, for concrete raft and road works at Pelaw.

H. Bingham and Sons, Limited, for lubricating oil dispensing facilities for Hull Botanic Gardens M.P.D.

T. Storey (Engineers), Limited, Stockport, for fabricated steel-work for temporary girders for bridgeworks.

Wellerman Bros., Limited, Sheffield, for replacement of arch bridge by steel girder bridge at Cooper Bridge.

Girlings Ferro-Concrete Co., Limited, Leeds, for concrete bridge beams for crossing Stainsby Beck at Newport marshalling yard.

Orders for Atkinsons

Overseas orders received for Atkinson vehicles during April totalled over £300,000. Included in these orders were 10 of the Omega model powered by Cummins engines to be used in the North African oilfields. The new associated company in Australia has now been formed and has already received a considerable number of orders for vehicles. Following the return of the chairman and managing director, Mr. W. G. Allen, and Mr. B. Francis Caunt to Britain it has also been decided to form a new subsidiary in Southern Rhodesia.

Birfield-Hofmann Agreement

An agreement has been signed between Birfield Tools, Limited, and the Hofmann organisation of Western Germany. The German group embraces Gebrüder Hofmann K. G., Darmstadt, and Maschinenfabrik Dionys Hofmann, Omstmettingen-Württemberg, two companies specialising in machine tool, balancing machine and vibration recorder manufacture. Under the terms of the agreement Birfield Tools will be sole licensees in Great Britain for the sale, installation and servicing of the complete range produced by the Hofmann organisation, with the exception of a series of wheel-balancing machines which are already being manufactured under licence in this country by the garage equipment division of another Birfield Group company, Laycock Engineering, Limited. At a later date it is expected that Birfield Tools will also manufacture under licence many of the machines in the range covered by the agreement.

Scottish Region Contracts

The following are among contracts which have been placed by the Scottish Region:

Wayne Tank and Pump Co., Limited, for diesel fuelling equipment, Ayr.

Wm. Govan and Sons, Limited, for pits, extensions to shed, stores accommodation, etc., for diesel maintenance facilities, Ayr.

James Miller and Partners, Limited, for demolition of tunnel and construction of two new bridges, Wallyford, East Lothian, and for reconstruction of six overbridges between Dumbarton and Balloch in connection with the Glasgow suburban electrification.

Taylor and Hubbard, Limited, for two diesel-electric rail travelling cranes, Dyce and Irvine.

Enfield Cables, Limited, for supply, termination, through jointing and commissioning of telecommunications cables, Millerhill Marshalling Yard.

Murdoch Mackenzie, Limited, for platforms, conveyor foundations, roadways, loading bank, etc., new Sighthill goods depot, Glasgow.

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TENDERS INVITED

THE following items are extracted from the Board of Trade Special Register Service of information. Inquiries should be addressed, quoting reference number where given, to the Export Services Branch, Board of Trade, Lacon House, Theobalds Road, London, W.C.1.

May 28—Belgium.—Stad Antwerpen Technische Dienst—Havenbedrijf, for the following UNITS for tugs: Five stationary diesel engines, 130 h.p., 500 r.p.m.; one diesel engine, 130 h.p., 500 r.p.m.; one stationary diesel engine, 195 h.p., 500 r.p.m.; four stationary auxiliary diesel engines, about 30 to 33 h.p., 1,000 r.p.m. (these will drive the auxiliary compressors and dynamo); two complete auxiliary sets (diesel-engine-dynamo auxiliary compressor), (the power of these diesel engines must be 20 to 22 h.p. at 1,000 r.p.m.); and one lighting set (diesel-engine-dynamo), the dynamo developing 3 kW at 120 volts d.c., maximum revs 1,000 r.p.m. Tenders to Het College van Burgemeester en Schepenen, Ten Stadhuize, Antwerp. (ESB/10461/59.)

May 29—Ceylon.—Department of Prisons for two petrol-engined MOTOR COACHES, seating 20-24 persons, and five STATION WAGONS, seating 7-12 persons. Tenders to Chairman, Tender Board, Ministry of Home Affairs, Colombo, 7. (ESB/11742/59.)

May 29—Peru.—Director of Port Administration for TYRES and TUBES for the port of Matarani, and 20 4,000-lb. TRUCKS, five 4,000-lb. TIPPING TRUCKS and two 5,000-lb. FORK-LIFT TRUCKS for the port of Iquitos. Tenders to the Minister of Finance and Commerce, Direccion General de Hacienda, Lima. (ESB/11247/59.)

May 30—British East Africa.—Tanga Municipality for one MOTOR GRADER, one AUXILIARY FIRE ENGINE and two REFUSE COLLECTION VEHICLES. Tenders to Town Clerk, P.O. Box 58, Tanga. (ESB/9707/59.)

June 1—Kenya.—City of Nairobi for one 5-cwt PICK-UP or VAN, one four-wheel-drive TRUCK, two 6-8 ton three-wheel diesel ROAD ROLLERS, two 6-8 ton tandem diesel ROAD ROLLERS, four MOTOR SCOOTERS and one forward-control l.w.b. 5-ton diesel VEHICLE with 14 cu. yd. side-loading, end-tipping refuse body and fitted with 1-ton hydraulic hoist/crane. Also for two pneumatic-tyred diesel TRACTORS with power take-off, hydraulics and three-point linkage, and two 3-ton two-wheeled steel-bodied hydraulic tipping TRAILERS for use with the tractors. Tenders to Town Clerk, City Hall, Nairobi. (ESB/11497/59.)

June 5 — Union of South Africa. — For 20 heavy-duty diesel-engined rear-dump TRUCKS having a net payload capacity of 20,000 lb. Tenders to the Chairman, Transvaal Provincial Tender Board, P.O. Box 1040, Pretoria. (ESB/10977/59.)

SHIPPING and SHIPBUILDING

Bo'ness Closing Date

BO'NESS is to be closed as a harbour by British Transport Docks after the p.m. tide on June 30, it is announced. Facilities for the import and export of goods will be withdrawn. It was originally proposed to close the dock and harbour, because of the small volume of trade handled, at the end of 1958.

Rates Cut for Container Traffic

TO speed up cargo handling and to increase trade, New Zealand coastal shipowners have made a 10 per cent cut in rates for container freight. The container method of cargo packing has been used for some time by individual manufacturers, and some coastal companies are now exploring the method for their own use.

New Zealand Port Reawakes

FOR the first time in 20 years, a deep-sea ship is to load frozen meat at Picton, port of the Marlborough provincial district in the north of the South Island of New Zealand. The loading of overseas ships at Picton was discontinued in 1940 when shipping was centralised at main ports. Since then, produce from Marlborough has been loaded on small coastal ships, and transferred to overseas vessels at Wellington. Picton is to be the terminal for the ferry service to Wellington (North Island) for which a 4,000-ton gross ship is to be ordered.

Welland Canal Bottleneck

TEETHING troubles have hit the St. Lawrence Seaway, opened on April 25. First, there is an acute shortage of pilots, despite the fact that North American ships do not need pilots and are therefore allowed through. At one time last week there were 20 foreign vessels anchored in Lake Ontario at Port Weller, entrance to the Welland Canal. Also causing delays was the absence of suitable manoeuvring gear on many ships. Because of serious hold-ups in the Welland Canal, the Canadian Government has ordered that all foreign-going vessels using the seaway must be equipped with winches, tackle and stern anchors to deal with the currents encountered at lock entrances. Ships of all nationalities carrying bulk cargoes are to be given priority through the canal.

The North British Rubber Co., Limited, has appointed Mr. R. J. Ainslie to its tyre mileage sales staff. He will be based at the branch at 57 Hilton Street, Manchester.

Mr. Andres B. Zala has been appointed sub-agent to Leyland Iberica S.A., of Madrid, for Leyland vehicles and diesel engines in the Canary Islands. His address is Murphy No. 4, Santa Cruz de Teneriffe, and Menendez Pelayo 25, Las Palmas de Gran Canaria.

Small and Parkes, Limited, announces moves of two of its 30 depots to more up-to-date premises—the Blackburn branch to 28-30 Whalley Banks (telephone Blackburn 6581) on May 11 and the Wakefield branch to 31 Ings Road (telephone Wakefield 4571) on May 25.

PETROLEUM EQUIPMENT

Third European Congress

THE Third European Congress on Petroleum Equipment, organised by the Federation of European Petroleum Equipment Manufacturers, is being held in Paris from June 22 to 25. The federation is represented in Britain by the Council of British Manufacturers of Petroleum Equipment. Twenty papers in three sections will be presented by international experts at the congress in English, French and German simultaneously. The subjects are: Safety in Refining Operations; The Transport and Distribution of Petroleum Products; and Drilling Techniques and Equipment. Social activities include sightseeing and shopping tours for ladies and a banquet for the delegates and their wives on a Seine bateau mouche. Visits will be made to oil installations, refineries, oilfields and petroleum equipment manufacturers' works. Visitors to the congress will also attend the International Convention of Chemical Engineers, which is being held at the Maison de la Chimie at the same time.

Inquiries should be addressed to Mr. G. C. Carr, technical adviser to the Council of British Manufacturers of Petroleum Equipment, at 2 Princes Row, London, S.W.1.

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FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

Great Northern Railway Board

The fifth and final report of the Great Northern Railway Board, for the year ended September 30, 1958, shows that working resulted in a trading loss of £691,490, and after interest, etc., this is increased to £1,103,174. The actual trading loss was £66,559 less than that for 1956-57, thanks to closing of lines, dieselisation and reduction in maintenance and renewal of lines open to traffic.

Bristol Aeroplane

The Bristol Aeroplane Co., Limited, is paying a final dividend in respect of 1958 of 8½ per cent on the ordinary, making 10 per cent for the year (same). The net profits shown amount to £614,000 (£808,000) after depreciation £1,763,000 (£1,892,000), interest £1,248,000 (£968,000) and taxation £626,000 (£807,000). In addition a profit of £850,000 on the sale of shares in an associated company has been added to capital reserves.

Associated Commercial Vehicles

The directors of Associated Commercial Vehicles, Limited, have declared an interim dividend for the year ended September 30, at the rate of 5 per cent. Turnover has been maintained, particularly in the export market and the effect of purchase tax changes is proving beneficial in the home market. The rationalisation of production is now having effect and the results for the six months to March 31, 1959, show satisfactory improvement as compared with last year There are indications that the improvement will continue. The final dividend is expected to be 10 per cent.

John I. Thornycroft

The directors of John I. Thornycroft and Co., Limited, have decided not to pay an interim dividend on the ordinary shares in respect of the year ending July 31, 1959. They say that Transport Equipment (Thornycroft), Limited, continues to operate at a loss. Eight years of purchase tax on commercial vehicles, coupled with the threats by the Socialist Party to renationalise road transport, and difficult export markets, have reduced turnover and increased costs. The policy of concentrating on specialised types of vehicles will take time to show results. Southampton shipbuilding, engineering and shiprepairing work continues to show good results.

Dual-purpose
ALL-TRACTION
For all-round fitment, giving better performance and cutting costs in on-and-off-the-road hauling. Deeper tread gives longer non-skid mileage. Tough, rugged shoulder bars give extra traction off the road and continuous centre ribs ensure long even wear on the road. Tension-Dried Gum-Dipped cord for super-strength body.
Firestone
Best on the road . . . and off
Dual-purpose
SUPER MILEAGE LUG
For rear wheel fitment. Outpulls and outlasts any tyre of its kind. Specially designed dual-purpose non-directional traction tyre for use where off-the-road service is frequent and severe. Power Bite Traction design, with cross grooves, heavy shoulder lugs and circumferential ribbing, gives maximum pulling-power and performance. Super Strength body, made with Tension-Dried Gum-Dipped cords.
EXPERIENCE COUNTS
45 Factories throughout the world. Firestone total sales exceed £1,000,000 per day.
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